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1.—*On the Bombyliid Fauna of South Africa (Diptera) as represented in the South African Museum.*—By Prof. M. BEZZI.

(With Plates I and II.)

SINCE the publication of H. Loew's general treatment of the family Bombyliidae in his classical work of 1860 on the South African Dipterous Fauna,* no other paper has appeared dealing especially with this group of flies, which seems, however, to be plentifully represented in that country.

In the old publications of Linnaeus, Fabricius, Thunberg and Olivier, as also in the earliest papers of Wiedemann on the insects of the Cape (1818–1819), and even in the general works of Wiedemann, Macquart and Walker, there are numerous species described, most of which had not been recorded subsequently. In addition, after 1860 many other new forms have been added by Adams, Bigot, Hermann, Karsch, Loew, Ricardo, Romani, Schiner, Walker, Westwood, etc. But all these descriptions are scattered, often hardly accessible, and by no means arranged systematically; therefore a general survey of the subject seems to be not devoid of importance.

It was then with the greatest pleasure that I received through the kindness of Dr. L. Péringuey the very rich collection of South African Bombyliidae in the South African Museum. At the same time I had already before me extensive collections of Ethiopian Bombyliidae from

* "Die Dipteren-Fauna Südafrikas," 'Abhand. Naturw. Ver. für Sachs und Thuring in Halle,' Berlin, 1860.

the British Museum, and others from the Hungarian Museum at Budapest. To these collections I have added the species received from the Albany Museum, Grahamstown, and those sent me by Dr. Brauns of Willowmore (Cape). This large amount of material enables me to give here a general review of the group, and to describe many new genera and species.

The collection contains a number of species determined by Bigot, who had prepared a paper on the Diptera sent him from the Cape by Dr. Péringuey.* Most of these species have never been published; but many of them were evidently classified from Macquart's types in Bigot's collection. For instance there is a type of *Lasioprosopa bigoti*, Macquart, 1855, described from Oceania, which is none other than *Corsomyra nigripes*, as already stated by Schiner, who had received the species from Macquart himself; this important synonymy has not been as yet recorded in the catalogues.

The Bombyliid Fauna of South Africa, as compared with that of the remainder of the Ethiopian region, shows some peculiar characters, which make it at once recognisable.

Firstly there is a large number of purely endemic genera, such as *Adelidea*, *Crocidium*, *Nomalonia*, *Péringueyimyia*, and some new ones—*Sosiomyia*, *Oniomyia*, *Pseudempis* and *Pteraulax*. But the main characteristic is the presence of the genera *Corsomyra* and *Callynthrophora*, which, with their now known 10 species, are exclusively South African; they represent certainly an endemic line of development which is no doubt adapted to some special characters of endemic flowers, to which they are adapted for pollination, as shown by their extraordinary facial brush. Very characteristic among the important genera is the great number of the species of *Bombylius*—a genus which is most sparingly represented in Central Africa; eminently peculiar are some groups of species, like that of the allies of *Bombylius micans*, and that of *B. lateralis* and *bivittatus*. The related genera *Systoechus*, *Anastoechus* and *Dischistus* comprise also characteristic species, chiefly those of the two first-named genera, which are very close to those of the group of *Bombylius micans*. *Lomatia* has a good series of peculiar forms, very often remarkable for their great size. In the genera *Anthrax* and *Spongostylum* peculiar specific forms are scarce, and so are likewise those included in the genera *Thyridanthrax*, *Villa* and *Litorrhynchus*. Against this a great number of characteristic species is to be found in *Exoprosopa*, some subgenera of which, like *Metapenta* and *Acrodisca*, and also groups, like those of *heros*, *seniculus*, *capensis*, etc., are exclusively or pre-eminently South

* Quoted by Bigot himself in 'Ann. Soc. Ent. France,' 4, xi, 1892, p. 371.

African. Poor in representatives is the genus *Hyperalonia*, which for a long time was believed to be absent from the Cape Fauna.

The classification of the family will be dealt with by me in my forthcoming general work on the Bombyliidae of the Ethiopian region in the British Museum; the classification has recently made great progress through the valuable contribution of my friend Th. Becker, 'Genera Bombyliidarum,' 1913, in which he recognised no less than fifteen subfamilies.

I give here a synoptic table of the groups and of the genera represented in the collection of the South African Museum.

- 1 (54). Hind border of the eyes not indented, or very rarely with a deep sinuosity only (*Eurycarenum*); eyes without a bisecting line.
- 2 (47). Occiput flat, not bilobate above and without a central cavity; occipital fringe typically placed at the border of the eyes.
- 3 (46). Prothorax less developed and not especially setose.
- 4 (45). Metasternum not specially developed; hind legs not specially strong; eyes of the females separated; body rather broad and more or less pilose.
- 5 (22). Tibiæ with 3 rows of long spicules; proboscis long; palpi single-jointed; metapleuræ usually hairy; body bristly.
- 6 (21). Abdomen broad, of oval or rotund shape; antennæ approximate together at base (*Bombyliinae*).
- 7 (16). First posterior cell closed at end; metapleuræ usually hairy.
- 8 (15). Hind border of the eyes absolutely entire; first posterior cell closed by the third longitudinal vein ending at costa; wings with a well-developed basal comb.
- 9 (12). First basal cell longer than the second.
- 10 (11). Three submarginal cells present *Triplasius*, Loew.
- 11 (10). Two submarginal cells present *Bombylius*, Loew.
- 12 (9). First basal cell not longer than the second.
- 13 (14). Face prominent and moderately pilose; discoidal cell as in the preceding genus *Systoechus*, Loew.
- 14 (13). Face rounded and more densely pilose; discoidal cell very obtuse at end *Anastoechus*, O.S.
- 15 (8). Hind border of the eyes with a deep sinuosity; first posterior cell closed by the fourth longitudinal vein ending at costa; basal comb small or wanting *Eurycarenum*, Loew.
- 16 (7). First posterior cell open; wings with no distinct basal comb; metapleuræ usually bare.
- 17 (18). Only two submarginal cells present *Dischistus*, Loew.
- 18 (17). Three submarginal cells present.
- 19 (20). Third antennal joint quite bare above *Adelidea*, Macq.
- 20 (19). Third antennal joint beset with long hairs above
Sosiomyia, gen. nov.
- 21 (6). Abdomen narrow and cylindrical; antennæ separated at base (*Cythereinae*) *Oniromyia*, gen. nov.

- 22 (5). Tibiae bare or only pilose, destitute of spicules disposed in rows; but if the spicules are sometimes distinct, then the palpi are 2-jointed; body not bristly.
- 23 (32). Cubital fork very broad; if it is rather narrow, then the body is short and broad (*Uriinae*).
- 24 (29). Body very pilose; squamulae with a long fringe; plumula usually distinct; face provided with a more or less distinct circular brush.
- 25 (28). Proboscis long; third antennal joint dilated at end; facial brush well developed.
- 26 (27). First antennal joint more or less elongate, but always of a cylindrical shape; antennae placed near the upper border of the facial brush
Corsomyra, Wied.
- 27 (26). First antennal joint short and swollen; antennae placed near the middle of the facial brush *Callynthrophora*, Schin.
- 28 (25). Proboscis shorter than the mouth-opening; third antennal joint linear; facial brush less distinct; antennae placed near the upper border of the facial convexity *Gnumyia*, gen. nov.
- 29 (24). Body almost bare; squamulae with a short fringe or nearly bare; face destitute of circular brush.
- 30 (31). Antennae inserted near the mouth, with a thick third joint.
Hyperusia, Bezzi.
- 31 (30). Antennae set far from the mouth, with a slender third joint; palpi long and thin *Megapalpus*, Macq.
- 32 (23). Cubital fork narrow; if it is rather broad, then the body is narrow and elongate (*Phthiriinae*).
- 33 (40). Ambient vein complete.
- 34 (39). Four posterior cells present; palpi 2-jointed.
- 35 (36). Cubital fork broad; anal cell open; tibiae with three rows of distinct spicules *Gonarthus*, Bezzi.
- 36 (35). Cubital fork narrow; anal cell closed; tibiae without or with less distinct spicules.
- 37 (38). Face hairy; third antennal joint longer than the first; eyes of the male united *Crocidium*, Loew.
- 38 (37). Face bare; third antennal joint shorter than the first; eyes of the male separate *Apatomyra*, Wied.
- 39 (34). Three posterior cells only; palpi single-jointed; first antennal joint longer than the third *Pseudoxmictus*, Big.
- 40 (33). Ambient vein incomplete, ending at apex of the anal vein.
- 41 (42). Four posterior cells present; discoidal cell complete; face bare; third antennal joint with a lateral stype apically; palpi single-jointed.
Phthiria, Meig.
- 42 (41). Three posterior cells only.
- 43 (44). Discoidal cell closed; third antennal joint acute at end, with a terminal style; palpi single-jointed *Geron*, Meig.
- 44 (43). Discoidal cell open; third antennal joint obtuse at end, with a lateral style; palpi 2-jointed *Apolysis*, Loew.
- 45 (4). Metasternum exceedingly developed; hind legs very strong and long; eyes coalescing in both sexes or nearly so; body bare and narrow; wings and abdomen pedunculate (*Systropinae*) . . . *Systropus*, Wied.

- 46 (3). Prothorax much developed and beset with strong bristles (*Toxophorinae*) *Toxophora*, Meig.
- 47 (2). Occiput prominent, bilobate above, with a central cavity, and with the fringe placed at the border of this cavity (*Cylleniinae*).
- 48 (53). Ocelli well developed; metapleurae bare.
- 49 (52). Second longitudinal vein not recurrent; first posterior cell open; three submarginal cells present.
- 50 (51). A marginal cell only *Nomalonia*, Rond.
- 51 (50). Three marginal cells *Henica*, Macq.
- 52 (49). Second longitudinal vein recurrent; first posterior cell closed; two submarginal cells *Péringueyimyia*, Big.
- 53 (48). Ocelli not distinct; metapleurae hairy *Tomomyra*, Wied.
- 54 (1). Hind border of the eyes indented; eyes with a more or less distinct bisecting line; occiput always prominent and bilobate above.
- 55 (60). Origin of the second longitudinal vein beginning before the middle cross-vein, and usually at acute angles with it (*Lomatiinae*).
- 56 (59). Origin of the second longitudinal vein acute and distant from the middle cross-vein. *
- 57 (58). Middle cross-vein placed much beyond the middle of the discoidal cell; eyes of the male separate; two submarginal cells. *Lomatia*, Meig.
- 58 (57). Middle cross-vein a little before the middle of the discoidal cell; eyes of male united; three submarginal cells . . . *Pteraulax*, gen. nov.
- 59 (56). Second longitudinal vein originating at an obtuse angle and rather near to the middle cross-vein *Petrorossia*, Bezzi.
- 60 (55). Origin of the second longitudinal vein quite opposite to the middle cross-vein, or nearly so (but a little before it in the gen. *Synthesia*).
- 61 (64). Third antennal joint with a pencil of hairs at end; squamulae with hairy fringe; metapleurae bare (*Anthracinae*).
- 62 (63). Third antennal joint broader than the second, and with a produced margin; wings with a broad black pattern, and often dimidiate. *Anthrax*, Scop.
- 63 (62). Third antennal joint globular, inserted into the cup-shaped second joint and not broader; wings only with infuscated spots at cross-veins and bifureations *Spongostylum*, Macq.
- 64 (61). Third antennal joint without terminal pencil of hairs; squamulae with scaly fringe; metapleurae hairy (*Exoprosopinae*).
- 65 (72). Two submarginal cells only, or very rarely three; ocelli placed at vertex or nearly so; claws usually not toothed.
- 66 (71). Front tibiae beset with distinct spicules; proboscis short, retracted, with fleshy terminal flaps; third posterior cell long.
- 67 (70). Face rounded, not prominent, never very convex; second longitudinal vein originating quite opposite to the middle cross-vein; third antennal joint globular, quickly attenuated into a long, thin filiform style.
- 68 (69). Mouth-opening developed as usual, like the proboscis; facial plate short; thoracical macrochaetae well developed . . . *Villa*, Loiy.
- 69 (68). Mouth-opening very small, with the proboscis rudimentary; facial plate very long and broad; no thoracical macrochaetae. *Oestranthrax*, Bezzi.

- 70 (67). Face bluntly convex, rather prominent; second longitudinal vein originating before the middle cross-vein; third antennal joint gradually tapering into a not thin point; pulvilli well developed.
Synthesia, gen. nov.
- 71 (66). Front tibiae smooth; proboscis projecting; face conically prominent or at least bluntly convex; third antennal joint cone-shaped; third posterior cell often short *Thyridanthrax*, O.S.
- 72 (65). Three or four submarginal cells; ocellar tubercle far remote from the vertex; claws usually with a distinct basal tooth.
- 73 (76). Three submarginal cells only; claws with a long and acute basal tooth.
- 74 (75). Face rounded; proboscis longer than the oral cavity, usually very projecting; fore tibiae beset with spicules *Litorrhynchus*, Macq.
- 75 (74). Face mainly conical; proboscis shorter and less projecting; fore tibiae usually smooth *Exoprosopa*, Macq.
- 76 (73). Four submarginal cells; claws with a short and obtuse tooth.
Hyperalonia, Rond.

FAMILY BOMBYLIIDAE.

SUBFAMILY BOMBYLIINAE.

BOMBYLIUS, Linné.

Syst. Natur., ed. x, p. 228, 1758.

This genus is very abundantly represented in the South African Fauna. The genus *Triplasius*, as it was understood by its author in 1855 and 1860 (with the exclusion of the American species added subsequently), is evidently the same as *Bombylius*, being based only on the variable character of the three submarginal cells; at any rate the type-species *T. bivittatus* (which is wanting in the South African Museum collection) must be considered as congeneric with *B. lateralis*.

The very numerous South African species in the collection may be divided in the following traditional groups of higher value:

- 1 (6). Hind femora spinose at base; antennae approximate at base and with the first joint not thickened; wings with a more or less developed basal comb, often of very large size.
- 2 (5). Eyes of the male united; no strong bristles on head or on fore part of thorax; third antennal joint usually short, and not much attenuated at end; pulvilli more or less but always well developed; wings with small basal comb and with the discal cell usually more or less acute outwardly.
- 3 (4). Hairs of prevalent black colour, at least on abdomen; there are usually silvery spots of squamose hairs on head, thorax and abdomen *ater* Group.

- 4 (3). Hairs mostly of yellowish or greyish colour, the black hairs on abdomen very scarce and limited to the sides or apex; no distinct silvery spots, or very rarely small ones on the frons alone.
minor Group.
- 5 (2). Eyes of the male separated, head and fore part of thorax provided with strong bristles; third antennal joint long and very attenuate; pulvilli very small, almost wanting; wings with a broad basal comb and with the discoidal cell very obtuse outwardly, almost truncate
micans Group.
- 6 (1). Hind femora not spinose at base, with long hairs only; antennae rather distant at base, with the first joint distinctly thickened; wings with no distinct basal comb
senex Group.

(A) GROUP OF *B. ATER*.

In this group are included the species which have united eyes in the male and a narrow frons in the female, no strong bristles on the fore part of the thorax, and hind femora with strong bristles underneath near the base. They may be at once distinguished by the prevalent black colour of the dense furry pubescence under which are very distinct spots of silvery scales.

This group, however, is a very artificial one, and the following species may be divided at least in three natural series: (1) that of *B. lateralis*—that is to say, the gen. *Triplasius*; (2) that of *B. analis* (No. 2); and (3) that of *B. ornatus* (No. 3 to No. 7). The known South African species may be distinguished as follows:

- 1 (4). Thorax on each side with a broad and complete whitish stripe; frons of female with numerous, long and partly bristly hairs; wings with the basal comb long but formed by very thin bristles; they are blackish on the fore half, and hyaline with black spots on the posterior half; second longitudinal vein rather strongly looped at end.
- 2 (3). Three submarginal cells usually present; the dark spots on the hind half of wings more numerous and confluent
bivittatus, Loew.
- 3 (2). Only two submarginal cells present; hind half of wings with only four round and isolated dark spots
lateralis, Fabr.
- 4 (1). Thorax void of whitish lateral stripes; wings without isolated dark spots; second longitudinal vein less looped at end.
- 5 (10). The black patch at the base of the wings extending to the discal cross-vein; alula very long and narrow, black.
- 6 (7). Wings with the basal half equally black, the apical half hyaline; first posterior cell broad and briefly stalked; squamae provided with a silvery fringe; thorax with yellowish hairs in front.
argentatus, Fabr.
- 7 (6). Wings with the basal black patch limited to the fore part, the anal and axillary cells being in part hyaline; first posterior cell narrow, and long-stalked; squamae with a black fringe; thorax with entirely black hairs in front.

- 8 (9). From the basal black part of wing springs an arched brown band, which is prolonged to the hind border along the sixth longitudinal vein *delicatus*, Wied.
- 9 (8). Wings destitute of such a pattern *mutilatus*, sp. n.
- 10 (5). The black pattern at the base of the wings very narrow, not extending over the basal cross-vein.
- 11 (18). Species of greater size (10–14 mm.), with rather short pubescence, chiefly in the female, which has, besides, the thorax densely clothed with white hairs; discal cross-vein never placed before the middle of the discoidal cell.
- 12 (17). Second longitudinal vein straight; discal cross-vein placed on or after the middle of the discoidal cell; basal comb strong.
- 13 (16). Body stout and broad, 12–14 mm. in length; wings with the black basal pattern more spread and extended over the alula; discal cross-vein after middle.
- 14 (15). Abdomen black-haired, with a tuft of white hairs at end.
analis, Fabr.
- 15 (14). Abdomen with a row of fulvous spots along the middle line.
fulvonotatus, Wied.
- 16 (13). Body slender and narrower, about 10 mm. in length; wings almost hyaline at base, darkened along the fore border to the end of the costal cell; discal cross-vein on middle *acroleucus*, sp. n.
- 17 (12). Second longitudinal vein wavy; discal cross-vein on middle; basal comb small; hind femora less spinose; wings at base yellowish, with hyaline or whitish alula *kilimandjaricus*, Speis.
- 18 (11). Species of smaller size, not reaching 10 mm. in length; pubescence longer, even in the female, the latter never densely white pilose on thorax; discal cross-vein always before the middle; wings with a very small basal comb.
- 19 (20). Abdomen with a conspicuous tuft of bright fulvous hairs on the central part of the sides *furius*, Walk.
- 20 (19). Abdomen destitute of such tufts on the sides.
- 21 (22). Thorax and abdomen destitute of golden-coloured pubescence; face with the silvery hairs prevalent; second posterior cell usually broad at base and sessile *ornatus*, Wied.
- 22 (21). Thorax and abdomen with distinct golden tomentum below the black hairs, more abundant in the female; face with the black hairs prevalent; second posterior cell very narrow at base and sometimes stalked *rufiventris*, Macq.

BOMBYLIUS LATERALIS, Fabricius.

Syst. Antl., 129, 3, 1805.

An isolated species, very like *bivittatus*, but on account of the bristles of the head and thorax making a passage to the group of *micans*; the eyes of the male are coalesced for a short distance, and the head has the shape of the species of the *B. micans* group.

A male from Howick, Natal; another male from Rondebosch (Cape), September, 1883, determined as *lateralis* by Bigot, and a female from the same locality. Of *B. (Triplasius) bivittatus*, Loew, I have received a male from Grahamstown (Cape).

BOMBYLIUS BOMBIFORMIS, Bezz. (ined).

Easily distinguished from the allies of *B. analis* on account of the broad, transverse band of orange hairs across the middle of the abdomen. Originally described from Rhodesia in my work on the Ethiopian Bombyliidae of the British Museum, there is a ♂ specimen likewise from Rhodesia (Pemba), 1918 (Father Casset).

BOMBYLIUS HAEMORRHOIDALIS, sp. nov.

Almost the same as *B. analis*, Fabr., but distinguished in being of greater size, in having a bright fulvous (not white) terminal tuft on the abdomen, and in the discoidal cell of the wings being acute outwardly. Type ♂, from Mashonaland, Salisbury, 1894 (G. A. K. Marshall). Salisbury (March 20, 1914), R. Jack.

♂. Length of the body, 17 mm.; of the wing, 18 mm.; of wing-spread, 45 mm. Head, its appendages and its furry pile exactly as in *analis*; thorax, scutellum, squamulae and halteres likewise. The hairs at end of the abdomen have the same length and extension, but they are above and below of a bright fulvous colour, with golden sheen; in *analis* they are always of a pure white colour, or there are only some fulvous hairs at base of the tuft on the ventral side alone. Legs and wings as in *analis*; but the discoidal cell is acute at its distal end, touching in a point only the second posterior cell, which is thus almost stalked at base; in the very numerous specimens of *analis* which I have seen there is always a rather long cross-vein between the above-named cells. Besides, the distinct yellowish tint of the wings of *analis* is wanting in the present species.

BOMBYLIUS ACROLEUCUS, sp. nov., ♀.

Near *B. kilimandjaricus*, and I formerly considered it to be the female of that species; but the second longitudinal vein being straight it belongs to the group of *analis*, and is to be considered as a connecting link between this group and that of *ornatus*, on account of the elongated body and of the position of the discal cross-vein.

Type ♀, a single specimen from Van Wyk's Vlei (Cape).

Length of body, 9.5 mm.; expanse of wings, 25 mm. Head black, clothed with dense but short white hairs, with some bristly black hairs near the ocelli; occipital hairs short; antennae black, shaped as in *analisis*; palpi black; proboscis black, 6 mm. long; shape and width of the frons as in *analisis*. Thorax black, clothed with dense and short white hairs, but having on the back three distinct longitudinal stripes of dark hairs; macrochaetae strong and long, black, but the longest end in a white point; mesopleural bristles well developed, white; pleurae and breast with hairs altogether white. Scutellum black, with black hairs and with long black bristles on hind border. Squamae brown, white-fringed; halteres black. Abdomen black and black-haired at base and on middle, with short white hairs on the sides, and at end with long hairs, black at base and white at end; venter with long greyish hairs. Legs entirely black and black-spinose; pulvilli yellowish; hind femora beneath with a complete row of 15-16 strong spines. Wings hyaline, narrowly blackened at the extreme base and distinctly yellowish-brown to the end of the costal cell at the fore border; alula grey, white-fringed behind; basal comb of middle size, black, with white hairs above. Wing-veins yellowish, but darkened outwardly; second longitudinal perfectly straight; first posterior cell broad and obtuse at end; discal cross-vein on the middle of the discoidal cell, which is rather obtuse outwardly, its external cross-vein being almost as long as the discal cross-vein; upper branch of the third vein very little retreating at base.

BOMBYLIUS MUTILATUS, sp. nov., ♂ and ♀.

Very like *B. delicatus*, but at once distinguished by the want of the arcuate brown band, which along the sixth longitudinal vein unites the brown of the base with the hind border of the wing.

Type ♂ and type ♀, and other specimens of both sexes, from Dunbrody, Uitenhage (Cape), December 19th and March 1st, 1912; Parys, Orange Free State; January, 1889; M'Fongosi, Zululand, March, 1911 (W. E. Jones).

Length of the body 4-6 mm. Head black and clothed with long black hairs; eyes of male coalescing for a long distance; frons of female broad, shining, with a dullish band above the base of the antennae; ocellar tubercle opaque black; both sexes have a small silvery spot outside the base of antenna, a cross-band of silvery hairs on the lower part of the face interrupted towards the middle, and a small round silvery spot in the middle of the occipital

border, near the eyes; the face is dull velvety black, with long and numerous black hairs; the beard is also black behind; proboscis a little shorter than the body. Antennae rather long and closely set at base; first joint with long black hairs; second joint globular; third joint a little longer than the first, not attenuate at end, with parallel sides, ending with a very minute style which is curved upwards. In the female there is a tuft of dark yellowish hairs on the upper part of the occiput, wanting in the male. Thorax entirely clothed with black hairs, even on the pleurae; there are silvery spots on the humeri, before the base of wings and in front of the scutellum; there is also the beginning of two longitudinal silvery stripes on the fore part of the thorax. Squamae and halteres black. Abdomen entirely black-haired, even on the venter; there is a row of silvery spots on each side, the spots on the fourth segment being broader than the others, and a median row of smaller silvery spots; there are no bristles on the hind borders of the segment, or only very thin and hair-like ones. Legs entirely black; hind femora with 4-6 strong bristles below; claws of male not much longer than those of the female. Wings with the discal cross-vein placed much before the middle of the discoidal cell; first posterior cell unusually narrow, blunt at end and long-stalked; second posterior cell with broad base; marginal cell with broad end; third posterior cell longer than broad; alula narrow and long, black. The pattern of the wings is as in *delicatus*, but with the difference above mentioned.

BOMBYLIUS KILIMANDJARICUS, Speiser (1910).

A male from Hex River, December 30th, named by Bigot i. litt. *B. nitidipunctatus*; another male from M'Fongosi, Zululand, March, 1911 (W. E. Jones); a female from Kimberley (Cape), November, 1913 (J. H. Power).

I am convinced that the present species is the *B. elegans* of Wiedemann on account of the fact that this author compares the species with *B. ambustus*, which is indeed very like; but as Loew has placed decisively *B. elegans* in the group of *micans*, I prefer to use the name under which Dr. Speiser has recently redescribed the species.

The hitherto undescribed female is very like *analis*, but is easily distinct in being smaller and in having the discal cross-vein placed on or very little after the middle of the discoidal cell; besides, the wings are not so intensively black at base, but only brownish; the hind antennal joint is shorter and less attenuate at end.

BOMBYLIUS FURIOSUS, Walker (1860).

A very distinct species on account of the bright orange tufts on the sides of the abdomen.

Originally described from Port Natal; there are some males from M'Fongosi, Zululand, December, 1911 (W. E. Jones), from Barberton, Transvaal (H. Edwards), and from Durban, Natal, April (J. H. Bowker).

BOMBYLIUS ORNATUS, Wiedemann (1828).

Easily distinguished by its smaller size and hyaline wings, which have the base only narrowly black.

Plettenberg Bay (Cape), June; Potchefstroom, Transvaal (T. Ayres); Dunbrody (Cape) (J. A. O'Neil); Estcourt, Natal (Haviland).

BOMBYLIUS RUFIVENTRIS, Macquart (1846).

Closely allied to the preceding species, but distinguished by the prevalent black hairs on the face, and by the reddish tomentum of thorax and abdomen.

Some specimens of both sexes from M'Fongosi, Zululand, December, 1911 (W. E. Jones); Durban, Natal (T. D. Butler); Lourenço Marques (Mozambique) (T. B. Paulus). Originally described from Port Natal.

Length of the body 5-7 mm. Previously mistaken by me for *ornatus*. On the face the black hairs are so prevalent that the cross-band of silvery hairs is much less distinct than in *ornatus*. Thorax and scutellum of male with only a less distinct scaly tomentum of golden colour, while in the female this tomentum is so dense that these parts appear to be entirely golden reddish; in addition in the female the hairs on the pleuræ are yellow, not black. The scaly tomentum of the abdomen is well developed in the male, while in the female it is as dense as that of the thorax. On the wings the discoidal cell is very acute outwards, and therefore the base of the second posterior cell is pointed and often this cell is briefly stalked, while in *ornatus* the same cell is always sessile and usually broad at base.

The female of the present species is very like a small *Usia* in appearance.

(B) GROUP OF B. MINOR.

I have placed here a great number of species of medium and often of very small size, which were completely unknown to Loew at the

time he wrote his work on the Diptera of South Africa; only in 1863 did he describe some species belonging to this group.

They are characterised by the united eyes of the male, spinose hind femora, small basal comb and absence of bristles in front of the thorax; the hairs of the body are mostly or entirely yellow, and there are no silvery spots on the body; only very rarely are these spots present on the head alone.

Of the following species, only the first is different in many respects from the others, and, together with the two other species mentioned for comparison, forms a group allied to the Mediterranean *B. nubilus*. All the remaining species are very homogeneous, and constitute a peculiar group very characteristic of the South African fauna.

They may be tabulated as follows:

- 1 (6). Occipital hairs short; upper branch of the third longitudinal vein straight at base and in its whole length parallel with the costa or rarely very little retreating, the second marginal cell therefore as broad at base* as at apex; antennae at base black-haired; proboscis entirely black; scutellum entirely black; legs always with black spines; discal cross-vein before the middle of the discoidal cell; wings infuscated at base and with a black comb.
- 2 (3). First posterior cell not acute at end; upper branch of the third longitudinal vein a little retreating at base, and usually provided there with a short stump; antennae and palpi entire black.
neithocris, Jaenn.
- 3 (2). First posterior cell rather acute at end; upper branch at base not retreating and not appendiculated.
- 4 (5). Face of the male clothed with black hairs; abdomen at end with a broad tuft of white hairs; antennae and palpi red, the third antennal joint bright red *erythrocerus*, Bezzi.
- 5 (4). Face of the male with dense yellow hairs; abdomen at end not broadly white-haired; antennae and palpi black. *mollis*, sp. nov.
- 6 (1). Occipital hairs long and dense, but without longer black bristles; upper branch of third longitudinal vein much retreating at base, and therefore the second submarginal cell is twice as broad at base as at end; antennae with pale hairs at base, and usually with red basal joints; proboscis often red—at least in part; scutellum usually red; legs with yellow spines; wings not infuscated at base, or only rarely pale yellowish, and with a yellow comb.
- 7 (12). Proboscis entirely red with a black end, or at least red on upper side; third antennal joint usually reddish; discal cross-vein placed much before the middle of the discoidal cell.
- 8 (11). Scutellum red; frons of female very broad; hairs of body of a moderate length; wings broadly reddish yellow at base; species of large size.

* The base is that on the third vein, the end is that at the costa.

- 9 (10). First posterior cell broad and less attenuate outwardly; discoidal cell large; proboscis long; third antennal joint reddish; large size.
eurhinatus, sp. nov.
- 10 (9). First posterior cell narrow and acute outwardly; discoidal cell very small; proboscis very short; third antennal joint black; smaller size *brachyrhynchus*, sp. nov.
- 11 (8). Scutellum greyish black, like the thorax; frons of female much narrower; hairs of body longer; wings entirely hyaline; proboscis short; species of smaller size *globulus*, sp. nov.
- 12 (7). Proboscis entirely black, or only red on the under side; third antennal joint usually black; discal cross-vein placed on or a little after the middle of the discoidal cell.
- 13 (14). Antennae entirely black, but with whitish hairs on the base; palpi black; proboscis entirely black; femora broadly black at base, but with yellow spines; abdomen with rows of black hairs at the hind borders of the segments; great size *impurus*, Loew.
- 14 (13). Antennae with red base or entirely red; palpi red; proboscis often red below; femora entirely yellow; abdomen without rows of black hairs; usually smaller.
- 15 (18). First posterior cell long and exceedingly attenuate outwardly, very acute, with a short stalk; second antennal joint red like the first.
- 16 (17). Abdomen broadly red on the sides and on the hind borders of the segments; hairs of body yellow; frons of female of usual width; third antennal joint short; first posterior cell with a short but distinct stalk; proboscis red below *mundus*, Loew.
- 17 (16). Abdomen entirely greyish black, or only with a narrowly red hind border to the segments; hairs of body grey; frons of female distinctly broader; third antennal joint longer; first posterior cell very briefly stalked, almost sessile; proboscis entirely black.
sessilis, sp. nov.
- 18 (15). First posterior cell of usual shape, blunt outwardly, with a long stalk; second antennal joint usually black like the third.
- 19 (20). Antennae entirely red; proboscis entirely black; scutellum without black border; abdomen entirely black with dense and equal yellowish hairs *xanthocerus*, sp. nov.
- 20 (19). Antennae with the third joint black, and usually with the second also black.
- 21 (22). Scutellum with a broad black hind border; abdomen and proboscis entirely black *marginellus*, sp. nov.
- 22 (21). Scutellum without black border.
- 23 (24). Very small species; proboscis black, or only dark red below; abdomen with yellow sides, end and hind border of segments red; hairs of body usually whitish *paterculus*, Walk.
- 24 (23). Species of large size; proboscis red below, abdomen entirely black.
- 25 (26). Head and end of abdomen with yellowish hairs; face dark; small size *fucatus*, sp. nov.
- 26 (25). Head and end of abdomen with white hairs; face yellow; large size *ruficeps*, Macq.

BOMBYLIUS MOLLIS, sp. nov., ♂.

Very distinct from all the other species of the present group on account of the short hairs of the occiput and of the peculiar shape of the second submarginal cell.

Type ♂, a specimen from Salisbury (South Rhodesia), June, 1913; another badly preserved male specimen from Barberton, Transvaal (H. Edwards).

The present species is closely allied to the East African *neithocris* Jaenn. (*appendiculatus*, Bezzi) and *erythrocerus*, Bezzi (*rufoantennatus*, Beck). Length of body, 10 mm.; of proboscis, 6 mm. Eyes contiguous for a distance a little longer than the vertical triangle. Head black; vertical and frontal triangles black-haired, this last with some shorter yellow hairs on the sides. Face with dense yellow hairs, only beneath with a few black ones; occiput with short yellow hairs; the dense hairs of the underside of the head are more pale-coloured. The two basal joints of the antennae are wholly black and black-haired, the third is elongate and black, proboscis entirely black; palpi black, thin. Thorax and scutellum deep black, clothed with equal and entirely yellowish hairs, without any black hairs even on the pleurae; there are no distinct bristles. Squamae brown, halteres with whitish knob. Abdomen entirely deep black, without bristles, clothed with equal yellowish hairs like those on the thorax, but on the sides of the 2nd, 3rd and 4th segments there are tufts of black hairs. Legs yellow with black coxae, trochanters and tarsi; but the praetarsi are yellow; spines of the hind femora black.

Wings greyish, distinctly but very faintly infuscated at base to the second basal cell and to the discal cross-vein; comb very small, black; alula brownish, with whitish fringe behind; veins entirely black; marginal cell rather broad in the last part; first posterior cell very acute outwardly and briefly stalked; discal cross-vein a little before the middle of the discoidal cell; the cross-vein dividing the discoidal cell from the second posterior cell is very short, and therefore the discoidal cell is rather acute outwardly.

BOMBYLIUS DISJUNCTUS, Bezzi.

Near *B. mollis*, but very distinct from it and from all the other species here recorded on account of the separated eyes of the male.

The species seems to be widely spread throughout the whole Ethiopian region, from Abyssinia to Natal; there is a male specimen from Salisbury, April 24th, 1917.

BOMBYLIUS EURHINATUS, sp. nov., ♀.

Easily distinguished by the long and red proboscis, by the red antennae, scutellum and legs, and by the wings being brownish along the fore border near the base.

Type ♀ and another specimen from Namaqualand, O'Okiep (Cape), the smaller one labelled by Bigot with the MS. name which I have retained for the species; another ♀ from Namaqualand, Springbok (Cape), November, 1890 (R. M. Lightfoot). Length of body 8-12 mm.; of proboscis, 6-10 mm. Entirely clothed with fulvous hairs of moderate length, the bristles of body and legs being also entirely yellow. Head yellowish, with black, grey-dusted occiput; frons very broad. Face produced; antennae entirely yellow, approximate at base, with the third joint narrow, long, gradually attenuate, with a very short terminal style; hairs of the occiput dense and rather long, of a pale yellowish colour, those of frons, face and base of antennae short and more yellowish. Palpi yellow; proboscis about as long as the body, red above and below, with a black tip. Thorax entirely dull black, clothed with dense fulvous hairs, and provided with yellow bristles before and behind the base of wings; pleurae without any black hair. Scutellum red, narrowly black at base, clothed with hairs like those of the thorax and with a row of yellow bristles at the hind border. Squamae and halteres yellowish. Abdomen entirely black, clothed with fulvous hairs with rows of thin, yellow bristles at the hind border of the segments; venter black, with only the hind border of segments yellow. Legs entirely yellow, whitish-dusted, with yellow bristles, those of the hind femora well developed and numerous. Wings with the basal infuscation extending to the second basal cell and to the end of the first longitudinal vein; marginal cell broad at end; second submarginal cell at base twice as broad; first posterior cell broad and not attenuate outwardly; discal cross-vein situated much before the middle of the discoidal cell; this cell is broadly obtuse outwardly and much longer than the second posterior cell, which has a broad base. Alula with a very short fringe, like that of the hind border of wings; basal comb rather long and yellow. Veins and costa yellow, the first vein red but black at end; ambient vein black.

BOMBYLIUS BRACHYRRHYNCHUS, sp. nov., ♀.

Allied to the preceding, but distinct by its smaller size, by the very short proboscis, by the shape of the first posterior cell, and by the colour of the antennae. The species is also allied with *mundus* and

sessilis, being, however, distinct owing to the basal infuscation of the wings, the red upper side of the proboscis, and from the first by the much broader frons of the female.

Type ♀ and another specimen of the same sex from Bushmanland, Jackal's Water (Cape), October, 1911 (R. M. Lightfoot).

Length of the body 7-7.5 mm.; of the proboscis 3 mm.

Head as in the preceding; third antennal joint black, and distinctly shorter; proboscis strong, red above, but black at end and below, the base excepted, which is dark red; the proboscis is besides much shorter, being hardly longer than the thorax. Thorax and scutellum as in the preceding. Abdomen black, narrowly red on the sides and with the venter altogether red; towards the end there are very long and white bristly hairs, which are entirely wanting in *eurhinatus*. Legs as in the preceding. Wings with the basal infuscation more blackish than reddish and limited to the second basal cell; first posterior cell very narrow, long and acute, but less than in *mundus*; discoidal cell very small, as long as the second posterior cell.

BOMBYLIUS GLOBULUS, sp. nov., ♀.

A very small species of globular shape, distinct by the long hairs of body, by the red antennae, proboscis and legs, by the black scutellum (an aberrant character in the present group), by the very narrow frons of the female and by the entirely hyaline wings.

Type ♀, and another specimen of the same sex from Namaqualand, O'Okiep (Cape), September, 1890 (R. M. Lightfoot).

Length of the body 5 mm.; of the proboscis 1.5-2 mm. Body entirely black, and entirely clothed with long yellowish hairs, without any black hair. Frons very narrow, about half as broad as in the two preceding species; antennae entirely pale yellow, provided at base with long hairs, with the third joint rather thick and pointed, ending with a style longer than that of the two preceding species; proboscis short and strong, red, with a black tip. Thorax clothed with long, pale yellowish and shiny sericeous hairs, which are almost whitish on the lower part of the pleurae; there are no distinct bristles. Scutellum entirely black, haired like the thorax. Abdomen entirely black, but red on the venter; it is hairy like the thorax; the bristles at the hind border of the segments are thin and hardly distinguishable between the hairs. Legs entirely yellowish, and with yellowish bristles, those on the femora well developed. Wings quite hyaline, with yellow veins which are darkened at end; basal comb very small; marginal cell also very broad, the upper branch of the cubital fork being very strongly

curved at base; discal cross-vein situated much before the middle of the discoidal cell; first posterior cell rather broad, not pointed, and very long stalked; discoidal cell rather small, but longer than the second posterior cell, which is broader than long.

BOMBYLIUS IMPURUS, Loew (1863).

A single male specimen from Bushmanland, Jackal's Water (Cape), October, 1911 (R. M. Lightfoot).

A well-marked species characterised by the numerous black bristles at the hind border of the abdominal segments, by the entirely black antennae, by the black base of the femora and by the red scutellum. The palpi are dark brownish; the proboscis is entirely black and rather long, measuring 8 mm., with a length of body of 14 mm. Bristles of legs entirely yellow, those on the hind femora numerous and well developed. Abdomen entirely black. The long bristles of the thorax are of a dark yellowish colour. Wings with a rather long and yellow basal comb; veins yellow, black outwardly; marginal cell broad at base; second submarginal twice as broad at base as at end; first posterior cell broad and short, obtuse, long-stalked. Discal cross-vein after the middle of the discoidal cell; this last cell broad, obtuse at end, much longer than the second posterior cell, which is broader than long; alula very briefly fringed Halteres with whitish knob.

BOMBYLIUS MUNDUS, Loew (1863).

I refer to this species, of which Loew has described the female only from Bloemfontein, some specimens which agree very well with his description. Length 8-10 mm., but the proboscis is only 4-5 mm. long, and therefore not *corpori subaequalis* as stated in the description.

Some specimens of both sexes from Bushmanland, Jackal's Water (Cape), October, 1911 (R. M. Lightfoot); a female from O'Okiep, October, 1885, labelled by Bigot *B. picticornis*, MS. I think that the *B. flavus* of Macquart may prove to be the same species. I have assumed as principal character of the present species the acute form of the first posterior cell, the sides of which are stalked; marginal cell broad at end; upper branch of the cubital fork not much bent at base, but the second submarginal cell always twice as broad at base as at end; discal cross-vein after the middle of the discoidal cell, which is very broad, but longer than the second posterior cell; this cell very broad at base. Basal comb yellow, short. The proboscis is entirely black above, but red below. Eyes of male contiguous for a short

space, but there is a very thin white stripe between them; frons of female comparatively narrow. The hairs of the occiput are dense and shorter than in the allied species. Squamae yellowish, white-fringed; halteres white. All the bristles of thorax and abdomen are concealed between the hairs and concolorous with them. Hind femora with numerous yellow spines. Claws of the female not longer than those of the male.

BOMBYLIUS SESSILIS, sp. nov., ♀.

Very nearly allied to the preceding, but distinct by the entirely black proboscis, by the much broader frons of the female and by the more pointed first posterior cell.

Type ♀, a single specimen from Bushmanland, Henkries (Cape), October, 1911 (R. M. Lightfoot).

Length of the body 8 mm., of the proboscis 4 mm. Hairs of body rather short, those on frons and face yellowish, on occiput and thorax pale greyish, on the sides almost whitish; there are no black hairs or black bristles. Palpi yellow; proboscis stout, black above and below. Thorax entirely greyish black; scutellum red, with a black base. Squamae and halteres whitish. Abdomen black, the hind border of the segments and the venter reddish. Legs entirely yellow, with the two last tarsal joints black; hind femora with 7-8 strong, yellow spines; claws of female short. Wings entirely hyaline; the veins are disposed as in the preceding species, but the first posterior cell is so pointed and so prolonged to the hind border that it is almost without a stalk.

BOMBYLIUS XANTHOCERUS, sp. nov., ♂.

Very closely allied to *mundus*, but distinct on account of the entirely red antennae, entirely black proboscis, longer occipital hairs, entirely black abdomen and the obtuse and long-stalked first posterior cell.

Type ♂, a single specimen from Bushmanland, Een Riet (Cape), October, 1911 (R. M. Lightfoot).

Head as in *mundus*, but the hairs of the occipital border are about twice as long; third antennal joint red like the others, with a hardly distinct terminal style; palpi yellow; proboscis black above and below. Hairs of thorax and abdomen rather long and dense, entirely yellow, like the less distinct bristles, and a little paler on the pleurae. Scutellum red, narrowly black at base. Abdomen entirely black, even on the venter, with the genitalia red. Halteres with a white knob. Legs entirely yellow, the last joints of the tarsi black; hind femora

with 7-8 strong and yellow bristles. Wings wholly hyaline; the veins as in *mundus*, but the discal cross-vein placed exactly on the centre of the discoidal cell, and the first posterior cell obtuse at end, with a long stalk.

BOMBYLIUS MARGINELLUS, sp. nov., ♀.

Like the preceding, but distinct owing to the black third antennal joint and by the scutellum marginated with black.

Type ♀, a single specimen from Matjesfontein (Cape), September, 1896 (W. F. Purcell).

Length of body 8 mm.; of proboscis 4 mm. Head as in *mundus*, with entirely yellow hairs, those on the hind border of the occiput very long; first antennal joint dark yellowish and with yellow hairs, second blackish, third black, long, with a very short and thin style. Palpi dark brown; proboscis entirely black; frons as broad as in the female of *mundus*. Thorax and abdomen with wholly pale yellowish hairs; the bristles are hidden between the hairs. Scutellum red, with a black base and a broad black border. Halteres with a white knob. Abdomen entirely black, even on the venter. Legs yellow, with the two last tarsal joints black; claws short; hind femora with 6-7 very long and strong yellow bristles. Wings hyaline, a little dark yellowish at base and along the costal cells; basal comb yellow; veins as in *mundus*, but the first posterior cell short, obtuse, with a long stalk; the discal cross-vein is placed a little after the middle of the discoidal cell, and the fourth longitudinal vein is strongly curved below after that cross-vein; the discoidal cell therefore is less obtuse at the end than in the other species.

BOMBYLIUS PATERCULUS, Walker (1852).

Distinct owing to its smaller size, dark pubescence, and yellow hind borders of the abdominal segments.

A single female example from Bushmanland (Cape), Jackal's Water, October, 1911 (R. M. Lightfoot).

Head as in *mundus*; second antennal joint black like the third; proboscis dark red below, 3 mm. long, while the length of body is 7.5 mm.; occipital hairs long. Scutellum red, with black base. Abdomen black, sides, venter and narrow hind borders of segments red. Legs as in the preceding, the hind femora with five long, yellow bristles. Wings as in *mundus*, entirely hyaline, with the first posterior cell short and long stalked.

BOMBYLIUS RUFICEPS, Macquart (1840).

Dipt. Exot. ii, 1840, pl. vii, fig. 5.

A species distinguishable by its greater size (length of body 12 mm., of proboscis 5 mm.), red underside of proboscis and entirely black abdomen.

A single male specimen from Bushmanland, Jackal's Water (Cape), October, 1911 (R. M. Lightfoot).

Face yellow; second and third antennal joint black; palpi yellow; occipital hairs long and shining white. Hairs of body dense and entirely yellowish. Scutellum red, with black base. Abdomen entirely black, even on the venter; its apical half clothed with whitish hairs. Legs yellow, the two apical joints of the tarsi black; hind femora with numerous yellow bristles. Wings distinctly yellowish at base and fore border; veins as in *mundus*, but first posterior cell short and long-stalked. Discoidal cell broad and very obtuse outwardly.

It is interesting to note that in the same place and time are found together numerous species of the present very homogeneous group, viz. *brachyrrhynchus*, *impurus*, *mundus*, *sessilis*, *xanthocerus*, *paterculus*, and *ruficeps*. In the European Fauna a similar fact is often to be observed in the species of the allied group *minor*.

(C) GROUP OF B. MICANS.

This group has been well characterised by Loew in his work on the South African Fauna, together with the statement that it is the most abundant in species at the Cape and that the distinction of the species is a very difficult one. But Loew has known only species with a brown fore border on the wings, like *micans*; there is, however, a long series of species with entirely hyaline wings, and another with spotted wings. These last species have nothing to do with the group *medius*, as those with a dark fore border have nothing to do with the group *major*.

The principal features of the group are as follows: Eyes of male separated; head with strong bristles on frons, and usually on the genae also; antennae with the first joint not thickened, and the third very long and thin; thorax with very strong bristles in front, on the shoulders; hind femora provided below with very long and strong bristles, even near the base; pulvilli very short, much shorter than the claws; wings with a very large basal comb, formed by strong bristles; discoidal cell very obtuse at end, the vein dividing it from the second posterior cell being rather long; discal cross-vein usually placed after the middle, and often on the last third of the discoidal cell; upper branch of the cubital fork much retreating at base.

The numerous species in the collection, with the addition of others before me, may be distinguished with the aid of the following table :

- 1 (24). Scutellum black ; bristles on the genae always present ; wings with an extended pattern consisting of a brown fore-border or of some broad dark spots.
- 2 (11). Wings with a dark fore border, provided with more or less distinct darker spots, but without any distinct broad brown spot on the hind half ; bristles of the genae entirely yellow, or rarely with a few black ones intermingled ; bristles of abdomen entirely yellow ; thorax usually with three distinct longitudinal stripes (*micans* group).
- 3 (6). Wings with a red or yellow basal comb ; femora entirely yellow.
- 4 (5). All the bristles of the body are of a bright purple-red colour, even those of the basal comb ; wings with a reddish fore border.
purpureus, sp. nov.
- 5 (4). All the bristles yellow, even those of the comb ; fore border of wings brownish-yellow as usually *micans*, Fabr.
- 6 (3). Wings with a black comb ; femora black towards the base.
- 7 (10). Spines of the legs of a yellow colour ; bristles of the genae entirely yellow ; thoracical stripes of the female distinct ; infuscation of the cross-veins into the dark fore border of wings not spot-like.
- 8 (9). Second and third posterior cells short, distinctly broader than long ; species of greater size *hypoleucus*, Wied.
- 9 (8). The above-named cells are long, longer than broad or as long as broad ; smaller size *hirtus*, Loew.
- 10 (7). Spines of the legs entirely black ; genae with a few black bristles between the yellow ones ; thorax of female not distinctly striped ; infuscations into the dark fore border broader and spot-like.
servillei, Macq.
- 11 (2). Wings with broad, isolated dark spots on the hind half, the dark fore border being more or less developed or wanting, basal comb always black, genae with wholly black bristles, or rarely with a few yellow ones intermingled, abdominal bristles black or yellow (*capensis* group).
- 12 (21). Legs with black spines ; peristomial comb usually black ; abdominal bristles usually black and distinctly longer than the hairs.
- 13 (20). Marginal cell entirely filled with brown, with or without hyaline spots at end.
- 14 (19). Marginal cell with two broad hyaline spots at end ; abdomen with the usual strong black bristles.
- 15 (18). Along the hind border of the wings there are brown spots on the last segments of the longitudinal veins ; anal cell with a brown spot at apex.
- 16 (17). Brown spots at end of the veins on the hind border very small and isolated ; anal cell with a small dot at apex, species of greater size.
capensis, Loew.
- 17 (16). Brown spots of the hind border very broad and united with those on the discoidal cell ; anal cell at end with a very broad spot ; species of middle size *megaspilus*, sp. nov.

- 18 (15). No spots along the hind border and at end of the anal cell; smaller size *braunsi*, sp. nov.
- 19 (14). Marginal cell entirely brown, without hyaline spot at end; no spots on the hind border, nor at end of small cell; abdominal bristles dark yellow; species of very small size *punctatellus*, sp. nov.
- 20 (13). Marginal cell broadly hyaline at end *punctifer*, sp. nov.
- 21 (12). Spines of the legs dark yellow; abdominal bristles yellow, and hardly longer than the hairs; peristomial comb yellow, or rarely black in part.
- 22 (23). Marginal cell filled with brown to the end; the cross-vein between the discoidal and the second posterior cell is not margined with brown *pentaspilus*, sp. nov.
- 23 (22). Marginal cell entirely hyaline; the above-named cross-vein is margined with brown *obesus*, sp. nov.
- 24 (1). Scutellum red; bristles of the genae often wanting; basal comb of the wings usually yellow or white; wings entirely hyaline, mainly without any dark pattern, or with a light yellowish tint near the base and along the fore border, or with very small and less distinct fuscous spots on the cross-veins.
- 25 (28). Genae with some strong yellow bristles, which form the usual peristomial comb of all the preceding species; body mainly yellow-haired.
- 26 (27). Scutellum entirely red behind; discoidal cell without a prominent angle below *spinibarbus*, sp. nov.
- 27 (26). Scutellum with a black hind border; discoidal cell with a prominent angle inwards, and there provided with a stump. *angulosus*, sp. nov.
- 28 (25). Genae without distinct bristles, but if they are rarely distinct, the body is mostly white-haired.
- 29 (34). Frons of female of the usual moderate breadth; wings usually not punctate.
- 30 (31). Scutellum with a broad black hind border; wings rather infuscated and punctate, with a black basal comb *nigripecten*, sp. nov.
- 31 (30). Scutellum without black hind border; wings with a yellow or white basal comb.
- 32 (33). Discal cross-vein before the middle of the discoidal cell; wings lightly infuscated at base; thorax of male with brown hairs. *peringueyi*, sp. nov.
- 33 (32). Discal cross-vein on the middle; wings entirely hyaline, even at base; thorax of male white-haired *argentifer*, Walk.
- 34 (29). Frons of female twice as broad as usual; wings hyaline, punctate, with the discal cross-vein before the middle of the discoidal cell. *molitor*, Wied.

BOMBYLIUS PURPUREUS, sp. nov., ♂, ♀.

Closely allied to *micans*, but distinct by the bright purple colour of the macrochaetae of the comb and of the thoracical stripes, and also by the more reddish fore border of the wings.

Type ♂ from Klipfontein, Namaqualand (Cape), August, 1890

(R. M. Lightfoot), and type ♀ from Namaqualand, August, 1873 (R. Trimen).

Length of body 12–13 mm., of proboscis 4–4.5 mm. Body yellow-haired, but here and there with purple-coloured macrochaetae. Frons of male broad, that of female twice as broad, but only of usual width; the hairs are yellow, white below, with only a few black hairs on the underside of the first antennal joint; on the upper part of occiput and on the sides of frons and face there are bristles of a bright red colour, chiefly in the female; the peristomial comb is well developed, and of a purple red colour. Antennae black, the third joint narrowly yellowish at base, elongate and very thin, with a short style; the first joint is not thickened, and is provided with long and numerous yellow and red hairs, with a few black ones at the underside. Proboscis black, rather short; palpi black; the hairs of the occipital border are short, but above near the vertex they are very dense and long. Thorax clothed with pale yellowish shining hairs, which on the lower part of the pleurae are whitish. The three longitudinal stripes of red hairs on the back are well developed in both sexes; there are long and strong bristles of a purple colour in front, in the notopleural region and on the breast; the metapleural tuft is formed by yellow hairs and red bristles. Scutellum entirely black like the thorax, clothed with yellow hairs and provided with strong bristles of purple colour at the hind border. Halteres yellow with a red stalk; squamae dark, with a reddish fringe. Abdomen black, clothed with long and shining yellow hairs, which are depressed to form a tuft in the female; on the sides there are tufts of black hairs, which, however, are almost wholly hidden between the yellow hairs; the bristles are long and strong, much longer than the hairs, chiefly those on the last segments; in the male they are more yellow, in the female more purple and coloured like those of the thorax. Venter black, with short reddish-yellow hairs. Legs entirely yellow, whitish-dusted, with yellow spines, those of the hind femora very long and strong, numerous, 8–10 on the lower row; claws long, black, with reddish base; pulvilli very short in both sexes. Wings hyaline; the fore border to the basal cells and to the last fifth part of the marginal cell is of a reddish-brown colour; basal comb strong, with purple bristles, yellow hairs above and a very conspicuous tuft of whitish hair also above near the base. The veins are red at base and brown at end; marginal cell with broad end; upper branch of cubital fork very retreating, the second submarginal cell being, therefore, three times as broad at base as at end; first posterior cell about of equal width throughout with parallel sides; broad, obtuse at end and

long-stalked; discoidal cell very broad at end, the vein between it and the second posterior cell being of unusual length, with the sides about parallel; discal cross-vein perpendicular, placed after the middle of the discoidal cell; anal cell broadly open; alula opaque, brownish-yellow, with a short yellowish fringe.

BOMBYLIUS MICANS, Fabricius (1798).

This species may be at once distinguished from all the others here recorded on account of its yellow alar comb and of the yellow femora. A single couple from Darling (Cape), 1905 (L. Péringuey).

It answers very well to Loew's description, but all the hairs and bristles of the head are without any exception yellow or whitish. The tuft of yellow bristles on the genae, or peristomial comb, is well developed.

BOMBYLIUS HYPOLEUCUS, Wiedemann (1821).

A species easily distinguished by the greater size and the short and broad second and third posterior cells.

There are numerous specimens of both sexes, answering to Loew's description: Namaqualand, O'Okiep (Cape), September–October, 1890 (R. M. Lightfoot); Stellenbosch, 1887, and Darling (Cape), 1905 (L. Péringuey); Bushmanland, Henkries (Cape), October, 1911 (R. M. Lightfoot); Giftsberg, Van Rhynsdorp (Cape), September, 1911. One of these specimens was labelled by Bigot, "*B. stylicornis*, Macq.," wrongly, as this last species is undoubtedly a *Systoechus*, and is perhaps the same as *S. mixtus*, as shown by fig. 2, pl. vii, of Macquart.

BOMBYLIUS HIRTUS, Loew (1860).

Closely allied to the preceding, but distinct by its smaller size and by the different shape of the posterior cells of the wings.

Some specimens of both sexes from Darling (Cape), 1905 (L. Péringuey); Matjesfontein (Cape), September, 1896 (W. F. Purcell); Namaqualand, O'Okiep (Cape), September, 1893 (R. M. Lightfoot).

BOMBYLIUS SERVILLEI, Macquart (1840).

Very distinct from all the foregoing species owing to the black spines of the legs; in this character, and in the almost spotted wings and in the partly black bristles of the peristomial comb the present species is a connecting link with the following *capensis* group.

Two female specimens from Fraserburg (Cape), April–June, 1885, determined by Bigot as *servillei* and answering very well to the original description.

BOMBYLIUS CAPENSIS, Linné (1767).

I refer to this species, which has never been recorded again from the time of the earlier authors, a single female specimen from Namaqualand, O'Okiep (Cape), September, 1890 (R. M. Lightfoot). It is 12 mm. long, with 30 mm. of wing expanse. It is wholly clothed with long, sericeous, whitish hairs, with long black bristles between them; the abdomen shows tufts of black hairs on the sides and at ends. The bristles of frons, face and genae are black, but on the occiput there are some yellow bristles. Proboscis black, 6 mm. long. Bristles in front of thorax numerous and strong, black, with a few yellow ones inwards. Femora black; tibiae yellow, with black spines. The wings are blackened at the base and along the marginal cell, which shows at end two broad hyaline spots, one after the other; there are broad, rounded fuscous spots at the end of the second basal cell, on the discal cross-vein and at the base of the second submarginal cell; other smaller spots are seen at the base of the third posterior cell and at the end of the discoidal and of the first posterior cell; much smaller and less distinct spots are on the ends of the veins along the hind border. Discoidal cell very long and obtuse; the discal cross-vein is situated after its middle; upper branch of the third vein very bent.

BOMBYLIUS MEGASPILUS, sp. nov., ♂, ♀.

Closely allied to the preceding species, but smaller, and distinct owing to the very broad black spots at hind border of the wings.

Type male from Giftsberg, Van Rhynsdorp (Cape), September, 1911; type female from Touw's River, Cape (W. F. Purcell).

Length of body 9-10 mm.; of proboscis 4-5 mm. Head black. Frons of the female three times as broad as that of the male; the hairs are white, but the bristles are black and very long, chiefly in the female; hairs and bristles of the occipital border long, at least near the vertex. Antennae black, the first joint with numerous and long black hairs; third joint very thin, entirely linear. Proboscis black; palpi black; peristomial comb strong. Thorax and scutellum entirely black; the thorax with greyish hairs and three less distinct longitudinal stripes of yellowish hairs; pleurae with white and yellowish hairs, bristles of the sides long and black, but those on the hind border of the scutellum are dark yellowish. Squamae dark; metapleural tuft black and some white hairs below the squamae; halteres blackish-brown, with a whitish spot on the knob. Abdomen black, clothed with long hairs, which are in part silky-white, but are mostly black; after the middle of the abdomen the hairs are directed behind, forming

a tuft; the bristles are longer than the hairs, black, but those of the hind half are mainly yellow. Venter white-dusted and white-haired in the middle, the sides with long and dense yellow bristly hairs, which are strikingly noticeable between the black pubescence. Legs with strong, black spines, those of the hind femora numbering 5-7, and very long; femora black, white-scaled; tibiae yellow; tarsi black with yellowish base. Claws of the male very long, black; claws of the female more than one-half shorter than those of the male; pulvilli dark, linear. Wings with the upper branch of the cubital fork thoroughly curved near the base; first posterior cell short, narrow and rather obtuse at end; discoidal cell broad and obtuse; second and third posterior cells short and broad; discal cross-vein placed after the middle of the discoidal cell. Veins black. Base and marginal cell blackened, but the latter with two hyaline spots at end; black spots placed as in *capensis* and likewise broad, but those at the base of the second and third posterior cells much broader, and united with the spots on the ends of the veins in the shape of a single angular spot; at the end of the anal cell there is a very broad spot, which is united with the one at the end of the second basal cell.

BOMBYLIUS BRAUNSI, sp. nov.

Allied to the preceding, but distinct by its smaller size, and in wanting the brown spots at the hind border of wings.

This species was found near Willowmore (Cape) by Dr. Brauns, and will be described by me in a forthcoming paper on the African Bombylidae of the Hungarian Museum.

BOMBYLIUS PUNCTATELLUS, sp. nov., ♂.

Allied to the three preceding species, but distinct, being the smallest of all, and having the marginal cell completely filled with brown to the end, without any hyaline spot.

Type ♂, an example from the Cape without special locality.

Length of body 6 mm.; wing expanse 13 mm. Head black; the eyes are more widely separated than in the other males; hairs long and whitish, those on the occiput rather long; bristles long and black, but those of the peristomial comb yellowish. Proboscis black, 2.5 mm. long; third antennal joint linear, with a rather long terminal style. Thorax and scutellum entirely black, with long yellowish hairs and very long, dark yellow bristles. Abdomen black, with dark yellow hairs on sides and at end with partly black hairs; bristles longer than the hairs and yellow. Legs yellow, black-spinose; femora dark,

white-scaled; tarsi blackish at end; hind femora with some long spines underneath; claws black, very long. Wings with black and long basal comb; upper branch of the cubital fork retreating at base; first posterior and discoidal cell very short, discal cross-vein set after the middle of the discoidal cell; anal cell closed at end. Wing pattern as in *capensis*, but no hyaline spots at end of the marginal cell and no brown spots along the hind border. There is a second male specimen in which the hairs of body are shiny white instead of yellowish, and the peristomial bristles are black; the bristles in the fore part of the thorax are black; the anal cell is broadly open.

BOMBYLIUS PUNCTIFER, sp. nov., ♀.

Distinct from the other species with punctate wings and with black spinose legs, owing to the marginal cell being hyaline at end; it is perhaps referred by Macquart to the varieties of his *B. servillei*.

Type ♀, and an additional specimen of same sex from Namaqualand, O'Okiep (Cape), September, 1890 (R. M. Lightfoot).

Length of body 10-11 mm. Head black; the eyes are moderately separated for a female; hairs white, the bristles long and all black, except a few yellowish ones at vertex. Third antennal joint linear, with a very short style; proboscis black, 3.5 mm. long. Thorax and scutellum black, clothed with whitish, sericeous hairs; thoracical bristles yellow, only a black tuft before the root of the wings and a few in front; scutellum margined with yellow bristles. Squamae dark, fringed with long, silvery hairs; halteres blackish. Abdomen black, clothed with hairs like those of the thorax, with only a few black hairs towards the end underneath; bristles black and longer than the hairs, which are tuft-like at end. Legs yellow, with black, white-scaled femora and black-ended tarsi; the spines are black, and very strong and long, chiefly those on the hind tibiae; hind femora with 5-6 spines underneath; claws short, black. Wings with a long-stalked first posterior cell and very obtuse and short discoidal cell; discal cross-vein a little after the middle of the discoidal cell. Basal comb strong, black; costal vein white-scaled to the end of the first vein. The wings are very little infuscated towards the base and along the fore border; the marginal cell is entirely hyaline after the end of the first vein; the greater brown spots are on the discal cross-vein and on the base of the upper branch of the cubital fork; the medium-sized spots are on the cross-veins closing outwardly the second basal and the discoidal cells; the smallest ones are on the base of the third posterior cell and at the end of the first posterior cell; these two

last spots are sometimes very faintly distinct, but there are no other spots besides the six above described.

BOMBYLIUS PENTASPILUS, sp. nov., ♂.

Distinct from the other species on account of the yellow peristomial comb and of the yellow spines on the legs. Wings blackened along the fore border.

Type ♂, from Dunbrody, Uitenhage (Cape), May, 1900 (J. A. O'Neil). Length of body 11–13 mm. Head black, with whitish hairs, those of the hind border long; bristles black, but those of the peristomial comb yellow, with a few black ones intermingled; antennae black, with the third joint linear; proboscis black, 4–5 mm. long. Thorax and scutellum black, with dense whitish sericeous hairs; bristles yellow, but black on the notopleural line and before the root of the wings; those on the hind border of the scutellum are yellow. Squamae dark brown, white-fringed; halteres blackish. Abdomen clothed with hairs like those of the thorax and with yellow bristles; there are black hairs below at end and on the sides; the pubescence at the apex is tuft-like. Legs black, with yellow spines, even those of the hind femora; claws black, long. Wings with black basal comb and with white-scaled costa; first posterior cell with a long stalk; discoidal cell broad at end, the discal cross-vein set a little after its middle. Wings with the base and the fore border broadly infusate to the end of the marginal cell, which has no hyaline spots at apex; the three greater brown spots at the end of basal cell and at the base of the second submarginal cell are in contact with the dark fore border, and they are therefore much less striking; the two smaller spots are at the end of the first and at the base of the third posterior cells.

BOMBYLIUS OBESUS, sp. nov., ♂, ♀.

Of this species of greater size I have two specimens in my own collection, collected by Dr. Brauns at Willowmore (Cape) in August, 1906. It is distinguished from the preceding by the hyaline marginal cell and by the infuscated cross-vein at end of the discoidal cell. A female specimen from Isipingo (Natal) in the collection has a black peristomial comb. Head black; frons of male broader than usual, and that of the female twice as broad; hairs long, greyish or white; bristles black, but those on the occiput yellowish, chiefly in the female; bristles of the peristomial comb yellow above and black beneath. Antennae black, with long black hairs at base; third joint linear, styliform; proboscis black, 5.5–6 mm. long. Thorax and

scutellum black, clothed with long and dense yellowish-grey hairs, which, seen from the front, are shining white; on the back there are three less distinct, dark, longitudinal stripes, more developed in the female; all the bristles are yellow, but along the notopleural line there are a few black ones. Squamae brown, white fringed, with yellow bristles. Abdomen clothed with hairs like those of the thorax; on the sides and behind there are some small tufts of black hairs, not visible from above; all the bristles are yellow, and only a little longer than the hairs; venter with long yellowish hairs. Legs white scaled, the tarsi and femora black, the tibiae dark yellowish; all the spines are long and yellow, even the 8-9 of the underside of the hind femora; claws black, those of the male twice as broad as those of the female. Wings with black basal comb, but under the base there are some yellow bristles, and inwards there is a tuft of long white hairs; costa white scaled; first posterior and discoidal cell rather short, the last broadly obtuse outwardly; discal cross-vein placed on the last third of the discoidal cell. The wings are almost entirely greyish hyaline, the costal cell and the base being only lightly yellowish-grey; the brown spots are small and less darkened, the greatest of all being, as usual, placed at the end of the second basal; first basal end at the base of the second submarginal cells; the others are at the end of the first and at the base of the third posterior cells; the cross-vein at end of the discoidal cell is, besides, margined with fuscous.

BOMBYLIUS SPINIBARBUS, sp. nov., ♂.

An entirely yellow-haired, very distinct species with red scutellum and yellow alar comb, forming a connecting link between the preceding and the following group, it being provided with a well-developed peristomial comb.

Type ♂, and an additional example of the same sex from Stellenbosch (Cape), November, 1887 (L. Péringuey).

Length of body 10-12 mm. Head black; frons moderately broad; all the hairs are yellow; those on the occipital border are short and those of the lower side are white; all the bristles are yellow, those on the first joint of the antennae are long, and those of the peristomial comb are whitish. Antennae black, with the third joint linear, but rather thick at base; proboscis black, 4-5 mm. long. Thorax black, densely clothed with rather short, entirely yellow hairs, which are white and shining in certain lights; the bristles are yellow, but less developed than in the foregoing species, only those before the root of the wings being strong. Scutellum entirely red above, with only the

base black, clothed with hairs like those of the thorax and without distinct bristles along the hind border; squamae brown, yellow-fringed; halteres with a white knob. Abdomen black, but sometimes red at the hind border and sides of the second segment; the hairs are like those of the thorax, but longer and tuft-like towards the end; the bristles at the hind borders of the segments are yellow and longer than the hairs, but very thin; venter with reddish hairs. Legs entirely yellow and with yellow spines; hind femora with 5-6 long yellow spines at the underside; claws reddish yellow, with black tip. Wings with yellow veins and with yellow basal comb; upper branch of the cubital fork much retreating at the base; first posterior cell acute at end and with a rather short stalk; second posterior cell very short, much broader than long; discoidal cell short and broadly obtuse at end, the discal cross-vein placed a little after its middle. The wings are greyish hyaline, but with a faint infuscation extended to the fourth longitudinal vein and to the cross-vein; there are traces of three less distinct dark spots on the ends of the second and of the first basal cells and on the base of the second submarginal cell.

BOMBYLIUS ANGULOSUS, sp. nov., ♂, ♀.

Very near the preceding, but distinct by its greater size, black margined scutellum, more spotted wings and by the peculiar venation.

Type ♂ and type ♀, a couple from Van Wyk's Vlei, Carnarvon (Cape), September (E. G. Alston), a badly preserved female specimen from Modder River (J. H. Power). Length of the body 13-14 mm. Head as in the preceding, with yellow hairs and bristles; frons of the female very broad, more than twice as broad as the eye, and bearing very strong and long bristles; peristomial comb long and strong, yellow. Antennae black, with the third joint less thickened at base; proboscis black, 5-6 mm. long. In the female the hairs of the face, chiefly those on the sides, are white, and the hind occipital border is white-scaled. Thorax as in the preceding, but the hairs on the breast are white, and in the female there are traces on the back of three dark longitudinal stripes. Scutellum red, with a black base and with a broad black hind border, or almost entirely black with a median red spot in the female. Abdomen as in the preceding. Legs entirely yellow and with yellow spines as in the preceding. Wings with yellow basal comb and with dark yellow veins; the discoidal cell is broader, and has beneath an angle prominent inwards and provided with the stamp of a vein; the basal infuscation is likewise less distinct; there are, however, more distinct but small brown clouds at the ends of the

first and second basal cells, at the base of the second submarginal cell, and at the bases of the second, third and fourth posterior cells; the second posterior cell is more elongate, about as broad as long.

BOMBYLIUS NIGRIPECTEN, sp. nov., ♂.

A species of medium size, distinct from the two following ones, which are likewise destitute of peristomial comb, by the wings having a black basal comb and being rather spotted.

Type ♂, a single specimen from Bushmanland, Henkries (Cape), (R. M. Lightfoot). Length of body 9.5 mm.

Head black, entirely clothed with long white hairs, only the vertex and the narrowest part of the frons with fuscous hairs; hairs of the occipital border very long and erect; frons rather narrow. Antennae entirely black, with white hairs at base, the third joint linear, not thickened at base, a little longer than the first; proboscis black, 4 mm. long. Thorax entirely clothed, even on the pleurae, with rather long white hairs, which on the back have a sericeous sheen; the bristles in front and near the base of the wings are well developed and of a yellowish colour. Scutellum with a deep black hind border, clothed, like the thorax, with yellowish bristles at the hind border. Squamae dirty brownish with fuscous border and long and dense grey fringe; halteres yellowish, with whitish knob. Abdomen black, only the three last segments being narrowly red on the sides; it is denuded, but its hairs seem to be longer but coloured like those of thorax, with some tufts of dark hairs on the sides; on the hind border of each segment, excepting the first, there is a complete row of very strong and long bristles, which, at least on the last four segments, are dark with yellowish base; the venter is clothed with white hairs and has strong bristles like those of the upper side; the genitalia are red in part. Legs with black femora and yellow tibiae and tarsi; the femora are clothed with silvery scales and have a yellow tip, which is broader on the four anterior ones; hind femora with a row of 7-8 very strong yellow bristles; underneath the hairs of the legs are all white and the spicules of the tibiae yellowish; claws black. Wings greyish hyaline, with black veins, but the first and the auxiliary vein are yellow; the anterior basal half show a distinct but faint infuscation; on the origin of the second longitudinal vein, on the discal cross-vein, on the anal cross-vein and on the base of the cubital fork there are rather distinct fuscous spots, and two other less distinct spots are set on the two basal angles of the third posterior cell. Upper branch of the cubital fork much retreating at base; first posterior cell rather narrow, acute at end and long-stalked; discal cross-vein set a little after the middle of the

discoidal cell, which is broad and short; second posterior cell longer than broad; third posterior cell in the shape of a trapeze. Basal comb well developed, consisting entirely of black bristles, with only a few white scaly hairs above.

BOMBYLIUS PERINGUEYI, sp. nov., ♂, ♀.

An elegant species, very distinct owing to the brown hairs of the thorax contrasting strikingly with the white ones of the middle of the abdomen; the wings are not spotted, but distinctly infuscated towards the base and along the costal cell.

Type ♂ and type ♀ from Klipfontein, Namaqualand (Cape), 1885 (L. Péringuey), the first specimen labelled by Bigot "*Systoechus peringueyi*, nov."; an additional female specimen from Spektakel, Namaqualand (Cape), October, 1890. I take pleasure in preserving for this beautiful species Bigot's MS. name in honour of the Director of the South African Museum, whose high merits in entomology are so greatly appreciated.

By the bristles of face and thorax the present species approaches those of the preceding group.

Length of body 11–12 mm. Head with wholly white hairs, but with brown hairs on the vertex and on the upper part of the frons; occipital hairs moderately long, but sometimes partly infuscated and with some bristles intermingled; on the genae there are some more or less distinct bristles of white or yellowish colour, more developed in the female than in the male. Antennae elongate, black, but the second joint sometimes brownish; the third linear, a little longer than the first; proboscis black, thick, 4–5 mm. long. Frons of the male rather broad, and that of the female nearly twice as broad, with distinct bristles on the sides. Thorax clothed with rather long and dense brownish hairs, which, seen in a certain light, are shiny white; pleurae white-haired; there are very numerous yellowish bristles on the fore part, on the sides and behind. Squamae brown, with yellowish or greyish fringe; halteres yellowish, with whitish knob. Scutellum red with black base, clothed, like the back, with yellowish and thin bristles behind. Abdomen with dense, erect white hairs, but at end with a fine tuft of brownish ones, coloured like those of the thorax; on the sides of the first segment there are broad tufts of brownish hairs, with similarly coloured bristles; the last two segments in the male and the last three in the female bear rows of strong and long bristles of a blackish colour with yellow base; the hairs at the end of abdomen are tuft-like; venter with dense white hairs, in the male almost without distinct bristles, in the female with

strong bristles at apex and with a very dense tuft of black bristles in the middle before the apex; male genitalia of a pale reddish colour. Legs yellow, with the femora more or less broadly black at base; they are provided with silvery scales and have yellow spines, those of the hind femora very numerous and strong; claws black, with yellow base. Wings hyaline, yellowish at base and along the costal cell and base of the subcostal cell; discal cross-vein and end of second basal cell sometimes narrowly margined with fuscous; basal comb large, yellowish, white-scaled and white-haired above; veins yellow, infuscated at end; disposed like the preceding species, but the discal cross-vein placed distinctly before the middle, nearly at the first third of the discoidal cell.

One female has the hairs on the back of thorax white, not brownish.

BOMBYLIUS ARGENTIFER, Walker (1840).

A couple of specimens from Spektakel, Namaqualand, and Clanwilliam (Cape) determined as *argentifer* by Bigot. They answer very well to the description of this species from the Cape. It is closely allied to the preceding, but distinct by the much less developed bristles, entirely white hairs of the thorax, wholly hyaline, vitreous wings with the discal cross-vein placed on the middle of the discoidal cell; in the female the wings show a trace of the coloration of the preceding near the base and on the cross-veins. The venter of the female is destitute of black tuft; and the female only has at the end of the abdomen some scarce brownish hairs, which do not form the distinct tuft of the preceding. Hind femora below with the usual strong spines.

BOMBYLIUS MOLITOR, Wiedemann (1830).

A couple of specimens from Bushmanland, Jackal's Water, and Henkries (Cape) (R. M. Lightfoot). This species also has never been recorded since its original description, and is closely allied to the preceding one, being distinguished by the very broad frons of the female, by the strong bristles of the abdomen and by the punctate wings. Bristles of genae and of peristome entirely wanting; frons of the male as narrow as in the preceding, that of the female with bristles on the sides; third antennal joint linear, but very much narrowed in its last half. Hairs of body white or grey; bristles of thorax, scutellum and abdomen very numerous and long, yellowish, but those on the abdomen of the female black with yellow base, well developed even on venter. Legs clothed with dense silvery scales, the femora black, those of the hind pair with strong spines below even

near the base. Wings with the neuration as in the two preceding species, but the discal cross-vein before the middle of the discoidal cell, and the upper branch of the cubital fork usually provided with a short stump near the base. The six fuscous spots on the cross-veins and bifurcations are much less developed, but always distinct.

The present species is somewhat aberrant owing to the unusually broad frons of the female, which thus approaches that of the following group; but the antennae are not widely separated at the base.

(D) GROUP OF *B. SENEX*.

To the present group I refer the species which are like the South European *B. senex*; they have a rather elongate, ovate body, the eyes of the male are separated, the frons of the female is very broad and long-haired, but with the bristles much less distinct than in the *micans* group. The antennae are rather distant at the base, with the first joint distinctly thickened—much more thickened than in any other group of the genus *Bombylius*. The mouth-opening is very broad, and around it there is a very prominent and large praelabrum, which is differently coloured from the face and the peristome; the face, besides, is very short. Hind femora without bristles at base, underneath provided with long hairs alone; in *senex* there are some bristles near the end, which are wholly wanting in the North African *separatus*, Beek, as in the new South African species here described. Wings rather narrow, with the discal cross-vein placed on the last third of the discoidal cell; basal comb very indistinct, almost wanting; there is usually a rather long, recurrent stump at the base of the upper branch of the cubital fork.

BOMBYLIUS HIRTICEPS, sp. nov., ♀.

Closely allied to *separatus*, Beek, from Tunis, but distinguished by the darker hairs of the face, by the absence of the stump at the base of the cubital fork, and by the shorter claws.

Type ♀, and another specimen of the same sex from Fraserburg (Cape), June, 1885 (E. G. Alston).

Length of body 8.5–10 mm. Head black, grey-dusted; frons very broad, about three times as broad as the eye, very long-haired, but without distinct bristles; the hairs on frons, face and genae are mostly black, but towards the middle line there are numerous yellow hairs. Antennae black, of the usual length of the preceding group, but of a peculiar structure; the first joint is distinctly thickened, grey-dusted, clothed with long black hairs; the second joint is ovoid; the third is long and thin, a little longer than the first linear, but at the extreme

base it shows an annular swelling which has the shape of a supplementary joint of a lighter brownish colour; in addition the antennae are distinctly separated at base—a feature never so developed in the true *Bombylius*, chiefly in those of the group *micaus*. Mouth-opening very broad, the praelabrum being very large and prominent and of a rather shining, black colour; proboscis short and thick, 8 mm. long; occipital hairs very long, those near the eye black, the other yellowish. Thorax black, clothed with rather long, yellowish-grey hairs, which, seen from the front, are shining white; there are on the sides and on the hind part numerous but thin, black bristly hairs longer than the usual pubescence; there are besides two rows of such hairs along the dorsocentral lines; on the pleurae these black hairs are more numerous, and sometimes the pleurae are entirely black-haired. Scutellum entirely black, clothed like the thorax, and with similar black bristles on the hind border and even on the disc. Squamae brownish, with a long yellow fringe; halteres with a blackish knob. Abdomen altogether of an opaque velvety black colour, like the thorax and scutellum, and clothed with similar hairs; there are rows of black, bristly hairs on the hind borders of the segments and tufts of black hairs at the apex and on the sides underneath, the venter being much darker-haired than the upper side. Legs reddish yellow, but the femora more or less black near the base, and sometimes almost entirely black; tarsi also blackened at end on the upper side; the femora are destitute of silvery scales, but are clothed with very long black hairs; those of the hind pair are absolutely without spines underneath; all the spines of the tibiae and tarsi are black; those of the four anterior tibiae are longer than usual; claws very short, black, with reddish base; pulvilli yellow, about as long as the claws. Wings greyish-hyaline, rather narrow and cuneiform, hardly faintly infuscated at the extreme base and along the fore border; veins yellow, blackened at end; basal comb very little developed, almost wanting; upper branch of the cubital fork much retreating at base without recurrent veinlet; first posterior cell broad, acute at end and moderately stalked; discal cross-vein on the last third of the discoidal cell, which is rather narrow and rather attenuated outwardly, the cross-vein dividing it from the second posterior cell being short; second and third posterior cells almost of equal size.

SYSTOECHUS, Loew.

Neue Beitr. iii, p. 34, 1855.

This genus seems to be well represented in the South African fauna. The species are rather difficult to separate, as already stated by Loew;

but at the Cape there are some striking forms very distinct from the others. Those in the collection can be distinguished as follows :

- 1 (12). Abdomen destitute of black bristles at the hind border of the segments—at least on the middle line.
- 2 (9). Legs mainly yellow, the femora sometimes with dark base.
- 3 (6). Species of very great size (13–16 mm.), without black bristles on the abdomen or with yellow ones; femora almost bare beneath, those of the front pair with many spines underneath.
- 4 (5). Proboscis conspicuously scabrose beneath; eyes of male broadly separated; thorax striped on back and pleurae; pulvilli very small. *scabrirostris*, sp. nov.
- 5 (4). Proboscis smooth beneath; eyes of male very approximate; thorax not striped; pulvilli well developed. *ventricosus*, sp. nov.
- 6 (3). Species of smaller size, not above 11 mm. in length; abdomen with some black bristles; femora much hairy beneath, those of the front pair not spinose or only with 1–2 spines below.
- 7 (8). Scutellum red, at least in the middle; frontal triangle of the male small and with a distinct furrow; mystax yellow; wings hyaline, with yellow veins. *simplex*, Loew.
- 8 (7). Scutellum altogether black; frontal triangle of the male broad and swollen, almost without furrow; face fringed with rigid black hairs; wings strongly infuscated, with black veins. *tumidifrons*, sp. nov.
- 9 (2). Legs black, the femora entirely black, or only those of the hind pair with pale end.
- 10 (11). Species of greater size, measuring not less than 9 mm. in length; scutellum red, at least in the middle; legs stout and spinose. *albidus*, Loew.
- 11 (10). Species of smaller size, not above 7 mm. in length; scutellum entirely black; legs thin and less spinose. *nigripes*, Loew.
- 12 (1). Abdomen with complete rows of very strong and distinct black bristles at hind border of the segments.
- 13 (14). Eyes of the male separated; front legs usually black-spotted on femora and tibiae; species of larger size, measuring 7–14 mm., but usually 10–12 mm. *mixtus*, Wied.
- 14 (13). Eyes of the male almost contiguous; front legs with yellow tibiae and femora; smaller size, not more than 10 mm. in length.
- 15 (16). Thorax with yellow hairs, which are rather long, and without bristles in front. *ctenopterus*, Mik.
- 16 (15). Thorax clothed with short, paler hairs, which show silvery sheen and on the pleura are of a whitish colour, and provided with brownish bristles in front. *spinithorax*, sp. nov.

SYSTOECHUS SCABRIROSTRIS, sp. nov., ♂, ♀.

A gigantic species, very distinct from any other by the pattern of the thorax, by the shape of the labium and by the shortness of pulvilli, making a passage to the genus *Anastoechus*.

Type ♂ and type ♀, a single pair of specimens from Namaqualand, Springbok and O'Okiep (Cape), September and October, 1890 (R. M. Lightfoot).

Length of body 15–16 mm., of wing expanse 36–38 mm. Head of much broader shape than usual, black on the occiput, but yellowish on the face and genae, clothed with greyish-dusty; frons a little hollowed at vertex, the ocelli being placed on a very prominent tubercle; its breadth at the narrowest point is in the male as broad as the ocellar tubercle, the frontal triangle in the same sex being broad and provided with a deep, longitudinal middle furrow; in the female the frons is very broad, with the middle furrow distinct basally only and with a deep transverse furrow before the ocelli, homologous with the less developed one which is to be observed at the same point in the male. Face broad and much projecting, mouth-opening rather short and broad; gena broader than usual; proboscis rather long, straight, 11–12 mm. long, entirely black; the labium is conspicuously scabrose beneath, owing to the fact that it is clothed almost on the whole length with very numerous but short spinules, which in the female are distinct even at the base of the labella. Palpi long and slender, black, with very short black hairs. Antennae wholly black, rather distant at base; first joint with short but strong yellowish hairs; second joint globular; third joint longer than the first two taken together, with an ovate base, but with the linear terminal part longer than the basal and ending in a minute style. All the hairs at the head are rather short and light coloured; those on the very swollen and broad occiput are white if viewed from the side, and very dense; the hairs on the ocellar tubercle and on the vertex are brownish, yellowish, on the frons, scarce and rigid towards the middle, denser and soft on the sides; the face is almost bare in the middle and has on the sides rather short, pale, yellowish hairs. Around the mouth-borders there is a fringe of short, but dense, yellowish hairs, leaving the lower part of the genae bare; peristome almost bare; beard on chin, much less developed, white. Eyes bare, with the upper areolets not at all enlarged in the male. Thorax entirely black, broad and stout, rather flattened above; clothed with dense and short hairs of equal size, which are only a little longer on the sides and on the pleura; the hairs on the back are of a brownish-yellow colour, but if viewed from the front show a white sheen chiefly in the male; in certain lights there are to be seen four longitudinal white stripes, two on the middle and two on the notopleural line, one on each side, all placed at equal distance, not extending over the middle, and more distinct in the female than in the male. On the pleurae, between the reddish-brown hairs, there are two vertical bands of white

hairs, a less distinct one in front and a much broader one on the mesopleura, extending to the breast; metapleural tuft very dense and of a reddish brown colour; the notopleural and supraocellar bristles are yellow and long, chiefly the latter ones. Scutellum broad, reddish brown, black at base, and, on the hind border, clothed like the thorax and with strong yellow bristles on the hind border. Squamae yellowish brown, with a dense and long white fringe; halteres with brown knob and whitish end. Abdomen broad, obtuse, rather shining black, narrowly red on the sides in the male, in which sex it is void of bristles, clothed with rather short, dense and soft, equal hairs, which, viewed from behind, are of a light yellowish colour, and viewed from the front are whitish with a silvery sheen; in the female the hairs are of a darker colour, and at the hind border of the segments there are short but strong brownish bristles disposed in many rows, but interrupted in the middle. The venter in the male is yellow towards the middle, while in the female it is entirely black, clothed in both from the base to the middle with silky hairs, and from the middle to the end with dark hairs. Male genitalia proportionally small, hidden, of a dark colour; anal tuft of the female reddish. Legs rather stout but long, wholly of a reddish yellow colour, the hairs only being blackened at end; they have pale yellowish, little-developed scales, and numerous black spines, but they are almost absolutely bare, even the front femora being destitute of hairs underneath at base; the spicules are well developed and numerous, but short in the front tibiae. All the femora are spinose beneath, even those of the front pair being provided with many short spines, disposed in two rows; spines of the hind femora very numerous underneath, 13-14 in number, extending from the base to the end, but those of the minor row are very short, the row of the upper side being 2-3 apical spines. Claws long and thin, black with reddish base; pulvilli whitish, very small, as long as half the claws. Wings long and narrow (length of a wing 16 mm., breadth of a wing 5 mm.); basal comb very strong and black, whitish yellow, pilose at base, with reddish sheen on the bristles in the male; they are greyish yellow, faintly infuscated at base and along the fore border to the end of the first vein, the brown yellowish tint running obliquely across the cross-veins to the middle of the anal cell, but without being well defined. Alula infuscated, with a short yellowish fringe. The veins are red, infuscated at end; the second longitudinal vein is strongly sinuous; the first posterior cell is long and narrow, narrower than the discoidal cell, which is rather obtuse at end, but not in such a manner as in *Anastoechus*; second and third posterior cells of equal length, but the former much broader at end.

SYSTOECHUS VENTRICOSUS, sp. nov., ♂.

This species is much like the larger specimens of *miatus*, Wied., but is at once distinguished by the more narrowly approximated eyes of the male, by the entirely yellow legs and abdominal bristles and by the non-infuscated base of the wings.

Type ♂, a single specimen from Stellenbosch (Cape) (L. Péringuey), 1888.

Length of the body 13 mm., of the wing 13 mm. Head black, dusted with grey, of the usual shape, viz. much smaller than in *scabirostris*. The occiput is clothed with dense and short fulvous hairs, which become paler below, changing to a quite white beard; the frons is very narrow, its breadth at the narrowest point being half as much as the distance between the two basal ocelli; it is clothed in the middle with erect black hairs like those of the ocellar tubercle, and on the sides with shorter and yellow ones. The frontal triangle is half as broad as in the preceding species, with a less distinct median furrow; the face is entirely clothed with dense hairs, which are black on the middle and on the sides and yellow along the mouth-borders, forming a dense fringe which is produced to the extreme end of the genae. Peristome short and moderately broad; the bare eyes have the upper areolets a little larger than the lower ones. Antennae entirely black, the first joint with long and rigid black hairs above and below; third joint longer than the two first joints taken together, almost linear, broadening very little towards the base. Proboscis entirely black, 6.5 mm. long, with the labium smooth below; palpi hidden. Thorax clothed with short, equal and dense fulvous hairs, without any black hairs or bristles, and with strong sericeous sheen if viewed from the front; before the root of the wings others are bright fulvous tufts, which on the pteropleura and on sternopleura are paler but on the breast are still fulvous; metapleural tuft fulvous. Scutellum entirely red, with only a very narrow black base, clothed like the thorax and with yellow bristles at the hind border. Squamae yellowish, with dense fulvous fringe; halteres with whitish knob. Abdomen broad and ovate, black, but narrowly red on the sides, clothed with dense equal fulvous hairs like those of the thorax; hind border of the segments with fulvous bristles which are concealed among the fur; venter with dense fulvous hairs and with a stripe of white hairs on each side; genitalia of greater size, their lamellae fulvous, with dark base. Legs entirely yellow, the coxae and the extreme base of femora and almost the whole of the tarsi blackish; they are clothed with pale scales and have a few pale hairs on the base of the femora below; the

spines are black, but those of the four anterior tibiae are partly yellow. Front and middle femora with rather numerous but short spines below; hind femora with 9-10 strong spines on the complete inferior row, the other rows being reduced to a few spines on the apical half. Claws black, with red base; pulvilli whitish, about as long as the claws. Wings hyaline, narrowly yellowish at the extreme base, in the first basal and in the costal cells; alula almost hyaline, with a short yellow fringe; basal comb of large size, black, yellow tomentose near the base. Veins red, a little darkened at end; venation as in the preceding, with the oval cell broadly open.

SYSTOECHUS SIMPLEX, Loew, 1860.

A species closely allied to the preceding one, but at once distinguished by the smaller size, the whitish, not fulvous, pubescence, the unarmed front femora, and by having a few but distinct black bristles on the sides of the last abdominal segments.

Some specimens of both sexes from Stellenbosch and Hex River, (Cape) (L. Péringuey), December, 1884.

The undescribed female is very like the male; the frons is very broad, with some bristly dark hairs on each side; palpi short, clavate, yellow, with black end; femora entirely yellow to the extreme base. Upper areolets of the eyes of the male a little enlarged; frontal triangle small and with a less developed middle furrow; third antennal joint linear; labium smooth below. Spicules of the 4 anterior tibiae well developed, partly yellow; front femora without spines, middle femora with 3-4 long spines; pulvilli as long as the claws.

SYSTOECHUS TUMIDIFRONS, sp. nov., ♂.

Readily distinguished by the broad and tumid frontal triangle, the black scutellum, the face fringed with rigid black hairs, the yellow legs and the strongly infuscated base of the wings.

Type ♂, a single specimen from Barberton, Transvaal, April, 1911 (H. Edwards).

Length of body 10 mm.; length of a wing 9 mm. Head black, dusted with grey dark yellow at the mouth borders and on the chin; occiput less developed than in all the preceding species, almost hollowed instead of being inflated, clothed with dense, rather long, pale yellowish hairs; chin and lower part of occiput with a long, conspicuous, quite white beard. Frons at the narrowest point as broad as the ocellar tubercle, and afterwards expanded in a very broad and inflated frontal triangle, the middle furrow of which is distinct but not

deep; it is clothed, like the vertical triangle, with long, erect, rather strong, black hairs, and only near the sides with some very short yellow ones. Face short but much produced, with rigid black hairs forming a long moustache-like fringe, very much developed and produced horizontally, and extended to the extreme end of the genae, only on the sides, near the eyes, are a few short yellow hairs; upper areolets of the eyes hardly enlarged. Antennae entirely black; first joint with dark yellowish hairs, which are longer below than above; third joint as long as the two first joints taken together, gradually tapering in a moderately thin point; proboscis entirely black, straight and thin, 6 mm. long, with the labium smooth below; palpi short, club-shaped, black with paler base. Thorax clothed with rather long pale yellowish hairs, which viewed from the front show a whitish tinge; on the pleurae they are a little longer but scarce, and white with a sericeous sheen; on the notopleural line there is a distinct stripe of darker, sometimes blackish, hairs; bristles whitish yellow; metapleural tuft rich and white. Scutellum entirely black, clothed with long hairs like those of the thorax, with no distinct bristles on the hind border, or at least they are concealed within the hairs. Squamae whitish yellow, with white fringe; halteres with white knob. Abdomen entirely black, clothed like the thorax but the hairs are whiter, with a silvery sheen; there are rather numerous and distinct black bristles on the sides of the last segments; venter with whitish hairs and black erect bristles along the middle; genitalia red, of medium size. Legs yellow, with tarsi and coxae black; base of the 4 anterior femora and end of the hind tibiae more or less broadly infuscate; they bear white scales, few white hairs on the base of femora, and black spines. Spicules of the 4 anterior tibiae well developed; front femora with 1-2 short spines, middle femora with 3-4 long spines, hind femora with 7-8 very long spines, the other rows being less developed; coxae with long and dense white hairs; claws thin, black, with narrowly red base; pulvilli whitish, long. Wings with the usual venation, but with black veins; they are strongly infuscated from the end of the first longitudinal vein to the end of the second basal cell and to the base of the alula, which has a yellowish fringe; basal comb of great size, black, pale tomentose basally; discoidal cell obtuse at end, its terminal vein as long or even a little longer than the discal cross-vein.

SYSTOECHUS ALBIDUS, Loew (1860).

Very near the two preceding species, but distinguished by the black femora and by the more numerous abdominal black bristles. A single

male specimen from Smithfield (Orange Free State), 1910 (D. R. Kannemeyer). The scutellum is red, black at the base and at the hind border; spicules of the anterior tibiae well developed, but the front femora are unarmed; all the spines of the legs are black.

SYSTOECHUS NIGRIPES, Loew (1863).

Very closely allied to the preceding species, but half as small, and with broadly separated eyes in the male and also with an entirely black scutellum.

A male specimen from Klerksdorp, Transvaal, December, 1890, and another from Kimberley (Cape), March, 1912 (J. H. Power).

Eyes of the male separated for a distance equal to the breadth of the ocellar triangle; antennae entirely black, with the third joint rather short, linear, not narrower at end than at base; proboscis and palpi black. Squamae whitish; halteres white. Hairs on the whole body pale yellowish, but if viewed from the front they are almost white; abdomen with only a few less distinct or even not distinct black bristles at the end of the sides. Legs entirely black, with only the knees a little yellowish, while in *albidus* the tibiae are more or less but always broadly yellow; the 4 anterior tibiae are thin and with less developed spicules; front femora unarmed, middle femora with 1-2, hind femora with 5-6 spines below. Basal infuscation of the wings rather broad, but of a more yellowish fringe; basal comb long, black, but with thin and more sparse bristles; discoidal cell shorter than usual, and therefore the second and third posterior cells longer than in all the preceding species.

Note.—The present species is closely allied to the European *S. leucophaeus*, Meig., being chiefly distinguished by the more broadly separated eyes of the male.

SYSTOECHUS MIXTUS, Wiedemann (1821).

A well-known and common South-African species, easily distinguished by the complete rows of black bristles on the abdomen and by the partly black spotted front legs, the front femora being also unarmed below.

A female specimen from Salisbury (S. Rhodesia), June, 1913; another from Bushmanland, Henkries (Cape), October, 1911 (R. M. Lightfoot); another from Marico (Transvaal), April, 1911 (A. T. Cooke); and one from Natal, Maritzburg, labelled by Bigot as *B. aurantiacus*, Macq.,

which of course cannot be so, because Macquart's species is a true *Bombylius* and not a *Systoechus*. I have also seen the present species from Grahamstown (Cape).

SYSTOECHUS CTENOPTERUS, Mikane (1796).

This Palæartic species, which seems to be widely spread over the Ethiopian region, is closely allied to *mixtus*, but distinguished by the smaller size, the eyes of the male, which are very much more approximated, and by the entirely yellow front legs of the female, the middle femora being also less spinose beneath. A single female specimen from Stellenbosch (Cape) (L. Péringuey).

SYSTOECHUS SPINITHORAX, sp. nov., ♂.

Nearly allied to the preceding species, but distinguished by the silvery sheen of the hairs of the thorax and of the base of the abdomen, and differing from any other on account of the strong bristles on the fore border of the thorax.

Type ♂, a single specimen from Klipfontein (Namaqualand) (Cape), November, 1885 (L. Péringuey).

Length of the body 9.5 mm.; spread of the wings 23 mm. Head black, a little dark yellowish along the mouth borders; occiput less developed, clothed with soft and dense greyish hairs, which viewed from the front are whitish, becoming quite white below like those of the chin; ocellar tubercle with black hairs; frons very narrow, the eyes almost touching, being separated by a very narrow streak not broader than the width of the fore ocellus; frontal triangle small; with less distinct middle furrow, with long and erect black hairs on middle and with short and dense, depressed white hairs on the sides; facies rather long and prominent, clothed with short and dense whitish hairs, and longer and erect black ones, the moustache not extending to the extreme end of the genae, the last portion of which is therefore bare, as in *scabrivostris*; peristome narrow. Eyes with the upper areolets more distinctly enlarged than usually; antennae entirely black, with the first joint with long black hairs; third joint a little longer than the two first taken together, with the basal half broadened and narrowly ovate and the apical half linear; proboscis entirely black, 7 mm. long, with the labium smooth below; palpi short and hidden. Thorax black, clothed on the dorsum with very short greyish hairs, which, viewed from the front, show a silvery sheen; pleurae and breast white haired; notopleural line with darker hairs; notopleural an postular bristles brownish; metapleural tuft white, a little

yellowish below. Scutellum red, black at base, clothed, like the thorax, with strong brownish bristles on the hind border. Squamae whitish yellow, with yellowish fringe, which show a white sheen; halteres with white knob. Abdomen short, rotund, black; the hairs disposed on separate rows and of a greyish lacteous colour, those on the base, sides and end with strong silvery sheen; there are complete rows of strong black bristles on the hind border of the segments; venter with white hairs and black bristles in the middle; genitalia hidden. Legs entirely yellow, with black coxae and last tarsal joints infuscate; they have white scales, white hairs on the femora and black spines; the spicules of the four anterior tibiae are slender, but well developed; front femora without any, middle femora with one, hind femora with 6-7 spines below. Claws black, with a red base; pulvilli whitish, long. Wings hyaline, a little darkened at the extreme base and along the first basal and the costal cells; alula almost hyaline, yellow fringed; basal comb of larger size, black, yellow-pollinose near the base; veins red, a little darkened at end; venation of the usual type, the discoidal cell rather pointed at end, its apical cross-vein being only half as long as the discal cross-vein.

SYSTOECHUS FULIGINEUS, Loew (1863).

Very distinct from all the other species having strong black bristles on the abdomen, on account of the very dark, almost blackish furriness of the body.

A female specimen from Namaqualand, Spektakel, October, 1890 (R. M. Lightfoot), measuring less than 9 mm. in length. I refer it to the male of greater size (13 mm.) described by Loew in a few words from Bloemfontein, chiefly on account of the dark furriness of the body; from *S. austeni*, Bezzi, from Rhodesia it is distinguished by the non-ciliated third antennal joint and by the infuscated wings. Occiput with yellowish hairs, frons and face with more infuscated ones. Antennae entirely black, with the first joint more than twice as long as the second, and a little shorter than the third, which is of elongate conical shape and quite bare. Proboscis entirely black. The dullish black thorax and the shining reddish scutellum are clothed with fuscous hairs and with black bristles. Squamulae yellowish-brown with a whitish fringe; halteres with a white knob. Abdomen black, rather shiny, with fuscous hairs and with very numerous and strong black bristles at hind border of the segments; venter with pale yellowish hairs at base; anal tuft dirty whitish. Legs stout, entirely blackish-brown, but with yellowish scales on the femora; all the spines

and spicules are black; hind femora with a complete row of 8–10 spines below. Wings with a fuscous basal comb and with dark yellowish veins; they are yellowish-infuscated at base and along the fore border, and greyish-hyaline on the rest. Discoidal cell obtuse at end; second longitudinal vein undulated; third posterior cell much narrower than the second; anal cell broadly open.

A very small female specimen (only 4 mm. in length) from Namaqualand, O'Okiep, 1885 (L. Péringuey), has the frons with parallel sides and about as broad as the eye; the thorax is black on the back, with 4 longitudinal greyish stripes, 2 of which are on the dorso-central lines and 2 on the sides; the abdomen with rather distinct pale yellowish bristles at hind border of the segments.

ANASTOECHUS, Osten-Sacken (1877).

This genus is well represented in the South African fauna—a fact entirely unknown hitherto, and even not suspected before. The species can be easily distinguished from those of the preceding genus, not only on account of the characters given in the table, but also by the following ones: The face is white-haired; the underside of body is white-haired; the spines of the legs are always strong and always yellow or white; there are often strong bristles on the face and the basal joints of the antennae are usually of a red colour; the abdominal fur is long and usually tuft-like, and between it there are usually strong and long bristles at the hind border of the segments; the basal comb of the wings is very often yellow or white.

The species in the collection can be distinguished as follows:

- 1 (12). Body without a silvery pubescence above and always with distinct bristles on the abdomen; scutellum red, at least on the disc.
- 2 (3) Genae with a distinct comb of strong, yellowish bristles; wings variegated, with the marginal cell completely filled with brown to the end, and with a yellow basal comb; antennae with red base.
rubricosus, Wied.
- 3 (2). No distinct peristomial comb; wings with the marginal cell hyaline—at least in its terminal half.
- 4 (7). First joint of the antennae very short, not longer than twice the length of the second; face of the male without bristles; hairs of thorax very short; femora mainly yellow; wings of the male dimidiated.
- 5 (6). First antennal joint red; eyes of the male rather separated; wings with the basal comb black and yellow . . . *varipecten*, sp. nov.
- 6 (5). First antennal joint black; eyes of the male more widely separated; wings with the basal comb entirely yellow . . . *ceri*, Loew.
- 7 (4). First joint of the antennae rather long, three times the length of the second; hairs of thorax long; femora mainly black.

- 8 (11). Wings infusate or dimidiate, with a black basal comb of usual size ; face even in the male with distinct bristles ; antennae entirely black.
- 9 (10). Head and thorax with numerous black bristles ; eyes of the male broadly separated, with small areolets ; palpi black ; wings infuscated basally *erinaceus*, sp. nov.
- 10 (9). Head and thorax with yellow bristles ; eyes of the male very approximate and with enlarged areolets above ; wings of the male dimidiate. *macrophthalmus*, Bezzi.
- 11 (8). Wings hyaline, with a small and whitish basal comb ; face of the male without bristles, and eyes in the same sex rather separated ; antennae of the male entirely black, with yellow base in the female. *innocuus*, sp. nov.
- 12 (1). Body wholly clothed with a long, silvery pubescence and without distinct bristles even on the abdomen ; scutellum entirely black ; wings hyaline, with a very small and silvery basal comb. *leucosoma*, sp. nov.

ANASTOECHUS RUBRICOSUS, Wiedemann (1821).

A very characteristic species, distinct from any other on account of its strong peristomial comb and of the very peculiar wing pattern.

Some specimens of both sexes from Namaqualand, Springbok, November, 1890 (R. M. Lightfoot) ; O'Okiep, October, 1885 (L. Péringuey) ; Bushmanland, Jackal's Water, Namaqualand (Cape), October, 1911 (R. M. Lightfoot). One specimen was already recognised by Bigot as belonging to the present species.

This species was not recorded since Wiedemann's description. It is very variable in size, measuring in length 9–13 mm., but one female is only 6 mm. The second antennal joint is red like the first ; the attenuated part of the third joint is very long and thin. The frons is without black hairs—in opposition to Wiedemann's statement (*Stirne schwarz behaart*) ; the bristles on the face are of the same colour as the fur, but they are always distinguishable, and those of the genae are very distinct, numerous and free. Eyes of the male broadly separated, their distance being about twice as broad as the base of the ocellar triangle ; areolets of equal size. Proboscis rather short, black, but the labium is usually red at the extreme base below ; palpi yellow. Thorax with long hairs and with no black ones ; those on pleurae and breast are whitish ; scutellum red ; all the bristles are of the same colour as the fur. Abdominal fur very long and tuft-like ; the numerous bristles are longer than the hairs, disposed in complete rows, and are pale at base and dark brown at end. Venter yellow, with pale pubescence and short yellow bristles along the middle ; anal tuft of the female very conspicuous, yellow ; male genitalia hidden within the dense apical tuft. Legs with only the apical part of the

last tarsal joint black; they have whitish scales on the femora and entirely yellow spines, which are well developed even on the anterior tibiae; front femora with 2-3, middle and hind femora with very numerous spines below; claws red with black end; pulvilli yellowish, much shorter than the claws. Wings with a peculiar pattern of a light yellowish-brown tint; the marginal cell is completely filled to the end; the discoidal cell is almost entirely hyaline; the infuscation of the base and fore border shows three points separated by hyaline spaces, one at the end of the marginal cell, the second at the base of the cubital fork and the end of the first posterior cell, the third at the end of the second basal cell, passing a little over the discal cross-vein. There is a distinct pale yellowish, longitudinal streak on the whole of the first basal cell, more or less broadened towards the base and below. Discoidal cell with parallel sides, as broad at end as the base of the second posterior cell; its apical cross-vein is longer than the discal cross-vein. Basal comb formed with entirely pale yellow bristles; alula yellowish, with long yellow fringe; veins of a red colour, infuscated at end. In the present species the first posterior cell is much narrower than the discoidal cell.

ANASTOECHUS VARIPECTEN, sp. nov., ♂, ♀.

This species, probably only a variety of the following one, is distinguished by the characters given in the table.

Type ♂ from Spektakel, and type ♀ from O'Okiep, Namaqualand (Cape), October, 1886 (L. Péringuey), this last specimen being determined by Bigot as *Systoechus mixtus*, Wied.

Length of body 13 mm.; of wing expanse 32 mm. Head yellow on the face, black on the vertex, but the ocellar tubercle in the male is of a dark red colour; eyes of the male with the upper areolets only a little enlarged, separated for a distance as broad as the ocellar tubercle; frons of the female very broad, broader than the eye, provided on each side with very numerous and strong brownish bristles directed forwards and outwards, a dense tuft of short bristles of darker colour being placed on the ocellar tubercle; occiput clothed with short hairs, which are yellowish only in the upper part and pure white on the sides and below. In the male the frontal triangle, the face and the cheeks are clothed by short but dense white hairs without any bristle, only the ocellar tubercle being clothed with yellow hairs. In the female the frons has a short yellow pubescence, which is white on the face and on the cheeks, but in the middle of the face there is a spot of yellow hairs in which some bristles of the same colour are noticeable, while two or three distinct bristles are present also in the middle of the

sides. The genae are clothed with white hairs, and are absolutely destitute of bristles in both sexes. Antennae with the first joint very short, only twice as long as the second; pale red in the male and clothed with white hairs, dark red with yellow hairs in the female; the second joint is globular and black; the third is black, about twice as long as the two first joints taken together, only a little dilated at base and gradually tapering in a long styliiform end. Proboscis black, short, 6.5 mm. long, with the basal ring reddish yellow and with the extreme base of the labium dark red below; palpi reddish-yellow, very thin, with short whitish hairs and with a few longer ones at end; peristome yellow. Thorax black, clothed with short equal hairs of a tawny colour, darker in the female; on the pleurae and breast the hairs are short and quite white; in the male the bristles are pale yellowish and only notopleural and post-alar; they are darker in the female, and in addition there is a strong tuft below the notopleural line, and other tufts in front behind the head and on the hind border of mesopleura. Scutellum red, with soft hairs like those of thorax, and with strong, pale, or dark yellowish bristles at the hind border. Squamae dirty yellowish, with a white fringe; halteres yellowish. Abdomen black, with the hind border of the segments and the venter red; it is clothed with dense and equal pale yellowish hairs, which from a front view show whitish sheens, and are denser in the male than in the female, but in both are distinctly tuft-like at end; there are complete rows of bristles at the hind borders of the segments, thinner and pale yellowish in the male, stronger and darker in the female; venter with scarce white hairs and almost destitute of bristles. Male genitalia yellow, anal tuft of the female luteous, but in both they are hidden within the fur. Legs entirely pale yellow, even at the end of the tarsi; the femora are bare and clothed with white scales; all the spines are yellow, the front femora with 1, the middle with 3-4, the hind with 7-9 spines below. Claws yellow, with black end; pulvilli yellowish, one third as long as the claws. Wings with the basal comb formed by yellow and black bristles; they are hyaline, but with a basal infuscation of a pale yellowish-brown tint, more extended in the male than in the female, but in both not surpassing the end of the first vein; in the male the border of this infuscation goes obliquely from the above-named point to the end of the fourth posterior cell, the second basal, anal and axillary cells being in greater part hyaline; in the female the infuscation is almost limited to the fourth vein; alula hyaline, with pale fringe. Veins rufous, a little infuscated at end. Discoidal cell broadly truncate, but its sides less parallel than in the preceding species, and its apical

cross-vein a little longer than the discal cross-vein; first posterior cell as broad as the discoidal one.

ANASTOECHUS CERVINUS, Loew (1860).

Easily distinguishable by the yellow basal comb of the wings and by the entirely black antennae, the first joint of which is short. A male and a female from the Cape, without precise locality. To Loew's original description may be added: face and genae destitute of bristles; antennae with the first joint only twice as long as the second; eyes of the male with the upper areolet a little enlarged, separated for a distance which is only as broad as the fore ocellus (a fact which seems to be contrary to Loew's statement); proboscis entirely black, with yellow basal ring; palpi yellow; hairs of frons entirely white. Scutellum red. Abdomen black, with red sides and red hind border of the segments; its bristles are not longer and not darker than the fur. Front femora with one, the others with more spines below; pulvilli very short. Wings with the two basal cells, the anal and the axillary cells almost entirely hyaline; neuration as in the preceding species.

The female, hitherto undescribed, has a broad frons, which is broader than the eye, and bears on the sides and on the ocella numerous but not very strong tubercles and dark yellow bristles; face without bristles, rather bare above the upper mouth-edge, and there shining yellow; proboscis with a black basal ring. Abdomen and venter entirely black, with the hind border of the segments narrowly yellowish; bristles strong and long, but of a pale yellowish colour like the fur. Hind femora below more reddish yellow, with whitish scales. Wings almost entirely hyaline, the fuscous pattern of the male being only indicated by a hardly distinct greyish tint.

ANASTOECHUS ERINACEUS, sp. nov., ♂, ♀.

A very peculiar and bristly, dark species of medium size, very distinct from any other on account of the numerous black bristles of the frons and thorax.

Type ♂ and type ♀ a single couple from Namaqualand, Springbok (Cape), November, 1890 (R. M. Lightfoot); an additional male specimen from O'Okiep (Cape) (L. Péringuey).

Length of body 8-9 mm.; of wing expanse 19-24 mm. Head entirely black, dusty-grey, but rather shiny around the vertex; occiput rather developed, clothed with long greyish hairs and with long dark

brown or black bristles, more numerous in the female; these hairs become shorter and whiter below, and besides the eye-borders show a broad band of silvery scales. Eyes of the male of smaller size, with equally small areolets, and more separated than in the other species, their distance at the narrowest point being three times as broad as the breadth of the ocellar triangle; frontal triangle very broad and not triangular, clothed with very long and erect, bristly, black hairs, and with short, silvery, scaly hairs on the front half, continued on the cheeks; face clothed with long white hairs, and with numerous, long and strong curved bristles of a white colour, some of which near the middle are black. In the female the frons is exceedingly broad, $2\frac{1}{2}$ times as broad as the eye; on the first half it is clothed with short white hairs, on the basal half it is bare and rather shining, and there and also on the sides it bears very numerous erect black bristles; face with white hairs and scaly silvery ones near the eye-borders, with numerous and strong white bristles and 2-3 black ones near the middle and on the sides above. On the genae there are no distinct bristles in either sex; the genae and the lower part of the cheeks are provided with long white hairs. Antennae entirely black, with the first joint long, almost 4 times as long as the globular second joint, with long black hairs and some black ones intermingled; third joint not longer than the two first joints taken together, slender, linear, less broadened at the base. Proboscis entirely black, 4.5-5 mm. long, the basal ring, like the peristome, with a yellow border; palpi very thin, black, almost bare, with a few dark hairs near the end. Thorax black, a little shining, with a faint dark-grey dust, clothed with long greyish hairs, which, viewed from the front, are shining white, and on the pleura and breast with quite white hairs. There are very numerous black bristles forming a complete row on the fore border, another row on the sides from the humeri to the postalar cell, a rich tuft below the notapleural line and a row at the hind border of the mesopleurae. Scutellum dark red, with black base and black hind border, clothed like the thorax, and with long black bristles on the disc and on the hind border. Squamae dirty white, with a narrow dark border and with a white fringe; halteres yellowish; metapleural tuft white. Abdomen entirely black, with a very long pubescence coloured like that of the thorax, and strongly tuft-shaped; on the hind borders of the segments there are complete rows of very numerous and long black bristles. Venter black, with white hairs and numerous black bristles; chiefly towards the end of the abdomen the bristles are exceedingly numerous, long, and intricate. Legs pale yellow, with the last joint of the tarsi black; the femora are black with yellow end, but are closely covered

with dense white scales and have white hairs below near the base; all the spines are well developed and yellow, there are none on the front femora, 3-4 on the middle femora, 6-7 on the hind femora; claws black, with red base; pulvilli very short. Wings greyish hyaline, with a suffused fuscous fringe along the fore border and near the base, more extended in the male than in the female and ending in the marginal cell at the end of the first vein. Basal comb black, with white tomentum near the base; alula almost hyaline, with pale fringe; discoidal cell with parallel sides, as broad as the middle of the first posterior cell, its terminal vein being longer than the discal cross-vein; second posterior cell as long as the discoidal cell, which is somewhat short.

ANASTOECHUS MACROPHthalmus, Bezzi.

Nearly allied to the preceding species, but distinguished by the closely approximated eyes of the male, and by the bristles of the head and thorax being yellow instead of black.

A single rather old and discoloured male specimen from Hex River (Cape), December, 1884 (L. Péringuey). Type is described by me from Willowmore (Cape) in the Museum at Budapest.

ANASTOECHUS INNOCUUS, sp. nov. ♂, ♀.

A smallish oblong, less bristly species, making a passage to the following on account of the small and entirely white basal comb of the wings.

Type ♂ and type ♀, a single couple of specimens from Van Wyk's Vlei (Cape) (E. G. Alston).

Male.—Length of body 8-8.5 mm.; of wing expanse 7.5-8 mm. Head black, but entirely clothed with dense hairs, which on the occiput are rather long, pale yellowish above and whitish below; lower border of the eyes with silvery scaly hairs; ocellar tubercle with yellowish hairs. Eyes of the male more broadly separated than in the preceding species, the frons at the narrowest point being as broad as the ocellar triangle; the upper areolets are a little broader than the lower ones. Frontal triangle at the base and on the middle with scarce, erect, dark hairs, and in front around the base of antennae with long yellowish hairs, mingling with those of the same colour which cover entirely the face concealing the mouth opening and of a white colour below; between this dense pubescence there are no bristles at all. Antennae entirely black, the first joint three times as long as the second, with dense pale yellowish hairs; third joint linear, narrower than the

second at the base, with the terminal part less attenuated. Proboscis entirely black, 4 mm. long, its basal ring with yellow border like the peristome; palpi blackish. Thorax black, faintly shining, clothed with dense and equal, rather long hairs which are light yellowish and shining silvery on the back and whitish on the pleura and below; there are no bristles in front, and the notopleural and postalar bristles are thin and yellowish. Scutellum dark red on the disc, black at the base and on the borders, clothed, like the thorax, with indistinct bristles at the hind border. Squamae dirty white, with yellowish border and with whitish fringe; halteres yellow, with whitish knob. Abdomen elongate, black, rather shining; the narrow lateral border (not the hind border of the segments) and the venter are red; it is clothed with dense and long soft hairs, which are coloured like those of the thorax, but are paler on the sides and at end, becoming white on the venter. The bristles at the hind border of the segments are well developed only on the last segments, and are thin and of a darker brownish-yellow colour; the fur is not tuft-like; on the venter there are no distinct bristles. Legs pale yellow; the femora are black, with only the tip yellow, more broadly so on the 2 anterior pairs, but they are clothed with white scales and with white hairs below near the base: all the bristles are thin and of a whitish colour; front femora without any, middle femora with 2, hind femora with 4-5 spines below; claws black, with a red base; pulvilli almost wanting. Wings entirely hyaline, the extreme base and the costal and first basal cells with a less distinct greyish tinge; basal comb small, with entirely white bristles; alula hyaline, white fringed; veins reddish-yellow, darkened at end; discoidal cell less obtuse, with the terminal vein only a little longer or as long as the discal cross-vein; first posterior cell narrower than the discoidal cell, which is a little longer than the second posterior cell.

Female.—Length of body 5.5 mm.; of the wing expanse 14 mm. Doubtfully the same species, but taken at the same place and time with the male, and half the size of it. Frons exceedingly broad, three times as broad as the eye, with numerous bristles on the sides, which are of a dark yellowish-brown colour; on the face there are no distinct bristles, but only a few bristly hairs of the same colour as the surrounding pubescence; the antennae are of the same shape as in the male, but the first joint is pale yellow. Thorax as in the male, but with numerous yellowish bristles below the notopleural line. Abdomen with more numerous, stronger and longer dark bristles, which, however, are set only at the end; in the middle the rows are incomplete. Legs and wings exactly as in the male.

ANASTOECHUS LEUCOSOMA, sp. nov., ♀.

An elegant species of small size, distinct from any other owing to the body being clothed entirely with long silvery hairs, without distinct bristles even on the abdomen, and by the vitreous wings, which have a silvery basal comb.

Type female, Bushmanland, Jackal's Water, October, 1911 (R. M. Lightfoot); O'Okiep (Cape), November-December; a specimen from Matjesfontein (Cape) is much larger, measuring 8.5 mm. in length. The present species was named by Bigot *Systoechus leucosoma* in M.S.; I have retained the very appropriate specific name.

Length of body 5.5-6.5 mm.; of wing expanse 13-16 mm. Head black, but densely clothed with silvery scales at the hind border of the eyes and on the sides of frons and face; on the vertex only there is a broad transverse black band clothed with erect black hairs enclosing the ocelli and extending from one eye to the other, like those of the ocellar tubercle; all the other hairs are silvery, long and dense, chiefly on the upper part of the occiput and on the face; there are no distinct bristles; the frons is twice as broad as the eye. Antennae entirely black; the first joint long and clothed with long, white hairs; the third joint linear, restricted to a long and thin petiole at the base, not broader in the middle than the second joint, and less attenuated at end. Proboscis as long as the body, 6-6.5 mm. long, thin, entirely black; palpi black, thin, with same long white hairs at the end. Thorax short and rather arched above; entirely clothed with long silvery hairs, those of the disc being only slightly dark if viewed from the side or from above; there are no distinct bristles, the notopleural and postalar ones being concealed within the fur, from which they cannot be distinguished. Scutellum entirely black, clothed like the thorax, and likewise destitute of bristles. Squamae white, with pale yellowish border and with argenteous fringe; halteres yellowish. Abdomen entirely black, with long hairs like those of thorax; the bristles at the hind border of the segments are thin and of the same colour as the fur, from which they are not distinguishable; venter black, yellowish at end, with shorter white hairs; the genitalia are destitute of the usual tuft of hairs, but have two approximate lamellae with a longitudinal fissure between them. Legs short and strong, with well-developed spines of a white (not yellow, as in the other species) colour; they are clothed with broad silvery scales, which are developed chiefly on the femora, but are abundant even on the tibiae. The femora are black, those of the two anterior pairs with the apical half pale yellow and those of the hind pair with the end yellow; the anterior and middle

femora have also white hairs below near the base, but are destitute of spines; the hind femora have 3-4 long spines below; tibiae and tarsi pale yellow, but those of the hind pair are distinctly darker. Claws black, with narrowly yellow base; pulvilli nearly wanting. Wings entirely vitreous, only a little whitish at the extreme base and along the fore border; basal comb very small and silvery; alula with a white fringe; veins pale yellow, darkened at end. Discoidal cell short and obtuse at end, its apical vein being longer than the discal cross-vein: it is as long as the second posterior cell and much broader than the narrow and elongate first posterior cell, the veins of which are almost entirely parallel.

EURYCARENUS, Loew (1860).

The species of this characteristic and rather aberrant genus seem to be more abundant in mid-Africa. The present collection contains only a few specimens of the typical species, and in addition there is a couple of specimens of a new form from Mozambique.

EURYCARENUS LATICEPS, Loew (1852).

Dipteren-Fauna Sudafrikas, p. 187, pl. ii, fig. 7.

A very distinct species on account of its generic characters.

A male from Morokweng (Bechuanaland) (J. M. Bain); a female from M'Fongosi, Zululand, December, 1914 (W. E. Jones).

EURYCARENUS SESSILIS, sp. nov., ♂, ♀.

Nearly allied to the preceding, but distinct from it and from any other species owing to the silvery abdominal bands and the very briefly stalked, almost sessile first posterior cell.

Type ♂ and type ♀, a single couple of specimens from Inhambane, Mozambique; an additional male example from Bechuanaland (G. Alston).

Length of body 8.5-9 mm.; of a wing 8-8.5 mm. Head black, with whitish-grey dust; occiput flat, with silvery tomentum on the sides beyond the lateral sinuosity of the eyes, and with white shiny hairs above; ocellar tubercle black-haired. Eyes of the male with the upper areolets broader, united on a line as long as the length of the ocellar tubercle; frontal triangle broad, with rather dense, erect black hairs, and a few whitish-dusted in front; frons of the female broad, one-third as broad as the head, yellowish-dusted, whitish near the eye borders, with sparse black hairs near the antennae, and with 4 strong, black, orbital bristles on each side, the apical one bent forwards, the

other backwards. Face broad, with a white tomentum on the sides and below, and with white hairs and a few black ones in the centre of the sides; genae with white hairs underneath; antennae entirely black, the basal joint with black hairs, the third joint long, narrow and pointed as in *laticeps*, but the upper ciliae seem to be caducous.

Proboscis entirely black, 3.5-4 mm. long; palpi not visible and seemingly less developed than is usual. Thorax and scutellum entirely black, with yellow pubescence, pale yellowish hairs and strong black bristles, which are numerous before the root of the wings and at the hind border of the scutellum; pleurae and breast with white hairs; metapleural tuft well developed. Squamae pale yellowish, with a dark border showing short black bristly hairs and a white fringe of moderate length. Halteres with blackish stalk and whitish knob. Abdomen entirely black; it is clothed with long white pubescence and has some black hairs at the base of the segments on the sides; very characteristic are the narrow bands of silvery tomentum on the hind border of the segments from the 2nd to the 6th; on the hind border of the segments there are besides complete rows of very strong and numerous black bristles; there is no trace of the white longitudinal stripe of *laticeps*; venter black and black haired, with a broad white transverse band in the middle; male genitalia black and black haired. Legs entirely black, with dark yellowish tibiae and basal joints of tarsi; in the female only they are white-scaled on the femora and the tibiae, but those of the hind pair have black scales on the apical half of the femora and the tibiae; the coxae and the 4 anterior femora are white-pilose near the base; all the spines are black, those of the tibiae well developed even on the front pair; middle femora with 4-5, hind femora with 10-12 spines below; claws black, with narrowly yellow base; pulvilli dark, as long as the claws. Wings greyish-hyaline, pale yellowish at base, with the black basal spot less developed; they have the typical venation of *laticeps*, with this exception, that in both sexes the first posterior cell has a very short stalk, being extended almost to the hind border, as in the genus *Sisyrphonus*. Alula hyaline, whitish fringed; praeclear hook strong, of a deep black colour; basal comb small, black, yellow tomentose; veins dark, yellow at base, especially the auxiliary and the sixth; base of the first and of sixth vein with a broad yellow pubescence.

DISCHISTUS, Loew (1855).

The present genus is rich in species provided with important characters. It can be divided in groups, like those of the genus *Bombylius*. Of these groups, only two are characteristic of the South African

Fauna, viz. the groups of *mystax* and of *seriatus*; and only these two are indeed represented in the collections of the South African Museum. Some species previously included in the genus will be removed to the new genus *Gonarthurus*. All the species here enumerated have the eyes of the male separated or only approximate; they can be distinguished as follows:

- 1 (4). Species of great size and of broad, stout body; metapleurae bare; antennae widely separated at the base, with the first joint thickened; hind femora without bristles below, only with rigid black hairs; tibiae with black spicules; wings short, with the discal cross-vein placed much after the middle of the discoidal cell; upper branch of the cubital fork less retreating; alula small and not fringed (group *mystax*).
- 2 (3). Proboscis short, not longer than the thorax; palpi concealed; femora black, with only the end yellow and with numerous rigid black hairs below *capito*, Loew.
- 3 (2). Proboscis as long as the body; palpi long and feathered; femora yellow, without black hairs below, or only with a very few thin ones on the hind pair. *plumipalpis*, sp. nov.
- 4 (1). Species of small size and of more elongate body; metapleurae haired; antennae approximate at base, with non-thickened first joint; hind femora with yellow bristles below; tibiae with yellow spicules; discal cross-vein set much before the middle or rarely in the middle of the discoidal cell; upper branch of the cubital fork much retreating, alula broad and fringed (group *seriatus*).
- 5 (6). Wings very short, with the discal cross-vein placed on the middle of the discoidal cell, which is short and broad, triangular; the two basal joints of the antennae, scutellum and legs entirely of a yellowish-red colour; pulvilli long *rubicundus*, sp. nov.
- 6 (5). Wings of usual length, with the discal cross-vein set much before the middle of the discoidal cell which is variable in shape; base of the antennae, scutellum and legs never completely yellow at the same time; pulvilli usually much shorter than the claws.
- 7 (8). Antennae, scutellum and legs entirely black; discoidal cell as long as broad; body clothed with silvery long hairs and below these with yellow tomentum *niveus*, Macq.
- 8 (7). Legs mainly yellow, at least on the tibiae; discoidal cell elongated, often very much longer than broad.
- 9 (14). Proboscis entirely black; frons in the known females narrow.
- 10 (13). Scutellum black; proboscis short; wings small, entirely hyaline; discoidal cell rather short, not twice as long as broad; femora not black striped.
- 11 (12). Femora entirely yellow, without distinct spines below; wings with rather distinct basal comb *ovatus*, sp. nov.
- 12 (11). Femora black, with distinct bristles below on the hind pair; wings with no distinct basal comb *seriatus*, Wied.

- 13 (10). Scutellum red; proboscis long; wings very broad and long, and broadly infuscated; discoidal cell almost three times as long as broad; basal comb developed; femora with black stripes below.
vittipes, sp. nov.
- 14 (9). Proboscis red above, at least near the base; frons of the known females very broad.
- 15 (16). Scutellum red; body grey, with pale or white fur; basal comb of the wings rather developed. *variegatus*, Macq.
- 16 (15). Entire body and scutellum of a deep black colour with dark reddish fur; basal comb smaller *tripunctatus*, Macq.

DISCHISTUS CAPITO, Loew (1860).

A species of great size (for the present genus), very near *mystax*, but at once distinguished from it and from the others by the characters given in the table.

Originally described from Caffraria. There is in the collection a male specimen from Grahamstown, May, 1885 (Billingham), measuring 12 mm. of length with 25 mm. of wing-spread; it was named by Bigot *Dischistus heterocerus*, Macq.; but Macquart in its description says that the third antennal joint is spindle-shaped and that the legs are yellow—characters which apply better to *mystax*, with which therefore it must be placed as a synonym.

The male was unknown to Loew and is hitherto undescribed; it is very like the female. The eyes have equally small areolets, and are set close to each other on the frons but separated for a distance which is as broad as the ocellar tubercle; the genitalia are black, with reddish borders to the lamellae; the black bristles of the abdomen form complete rows and are very numerous. All the femora are provided on the underside with long and numerous, rigid, black hairs, with some yellow ones intermingled chiefly near the base and on the middle pair. The pulvilli are only a little shorter than the claws. Wings with the discoidal cell long, the two middle segments of its lower vein being of equal length; basal comb not distinct; alula very small and destitute of fringe.

DISCHISTUS PLUMIPALPIS, sp. nov., ♂.

Closely allied to *mystax* and *capito*, but at once distinguished by the long proboscis, the feathered palpi and the much more approximate eyes of the male.

Type ♂, a single specimen from Grahamstown (Cape), 1883.

Length of the body 10.5 mm.; spread of the wings 22 mm. Head black, grey-dusted; occiput flat, concave in the middle, with rather

long yellowish hairs at the upper border, which become shorter and paler below, but along the whole ocular border, in front of these hairs, there is a fringe of thin but distinct black ones. Ocellar tubercle black, with a tuft of long black hairs; eyes with the upper areolets distinct but little broader than the others; they are greatly prolonged above, approaching each other to a distance which is only a little broader than the breadth of the fore ocellus. The frontal triangle is very short and very broad, with short yellowish hairs on the middle and with dark ones on the sides; cheeks clothed with long, reddish hairs forming a rich moustache, but marginated near the eyes with black hairs; below this moustache are to be seen the rather broad, shining black and bare mouth borders. Beard very dense, becoming longer behind, of a dirty whitish colour. Antennae entirely black, rather separated at the base; first joint long, grey-dusted and distinctly thickened, clothed with very long and dense hairs which are pale yellowish above and reddish below, with some black hairs intermingled; second joint globular; third as long as the first, but much thinner (almost spindle-shaped as in *mystax*), but less narrowed at the base, its terminal half being very thin, with a short capillar style at the end. Proboscis entirely black, very long and thin, with small terminal labella, 11 mm. long; palpi very long, as long as the antennae, black, feathered with long and dense, rigid hairs which are black above and at apex, whitish below, and also at the base. Thorax and scutellum entirely of a deep black colour, clothed with dense, equal yellowish hairs of moderate length; on the pleurae the hairs are paler and those of the breast are whitish, but the metapleura is bare, concealed below the squamae and the mesopleural tufts; there are distinct, but thin, bristly, black hairs at the posterior end of the thorax and on the hind border of the scutellum. Squamae dirty-whitish, with dark brown border and very long and dense whitish fringe; halteres with a white knob. Abdomen entirely deep black, clothed with hairs like those of the thorax, whitish-shiny from a front view; the black bristles at the hind border of the segments are very numerous, forming complete rows, but they are very thin; venter with greyish hairs and without bristles; genitalia black. Legs entirely pale yellow, but the tarsi broadly black at the end and the femora narrowly darkened at the base; they are pale-dusted, and the femora have very long white hairs below, but only a few thin black hairs and no spines; the spicules of the tibiae are very long and numerous; claws red with black end; pulvilli dirty-whitish, a little shorter than the claws. Wings very short, entirely hyaline; only at the extreme base and in the costal cells have they a faint yellowish tinge; veins

yellow, darkened at end; no distinct basal comb; linear alula very narrow, not fringed, venation typical of the group.

DISCHISTUS RUBICUNDUS, sp. nov., ♂.

A species of middle size, with elongate body and short wings, very distinct owing to the colour of the antennae and legs, and by the typical venation. The present species in coloration, shape and disposition of the abdominal fur strongly recalls *Bombylius mundus*, Loew, and some other species of the same group, which were taken in the same locality and at the same time; even the specimens of *D. rubicundus*, Wied., from the same locality, have a very similar facies.

Type, ♂; a single specimen from Bushmanland, Jackal's Water (Cape), October, 1911 (R. M. Lightfoot).

Length of the body 9 mm.; of a wing 6.5 mm.; spread 17 mm. only. Head black, with dense grey dust; occiput much developed, swollen, clothed with short and dense pale yellowish hairs, which below are very short and become tomentose near the borders of the eyes; no black hairs behind; ocellar tubercle less prominent with pale hairs; frons as broad as the ocellar tubercle, moderately broadened forward, with dense yellow hairs. Face and cheeks with entirely yellow hairs forming a scarce and short moustache, the lower hairs being rigid and paler; beard scarce and short, whitish. Eyes dark red, with irregular black spots and with equally small areolets. Antennae approximate at the base, rather strong; first joint of a pale reddish colour, with sparse hairs, which are very short and whitish above, very long and yellowish below, forming a tuft; second joint of the same colour as the first, and twice as long; third joint deep black, as thick as the first, truncate, very little attenuated at the extreme end, of even shape throughout; terminal style very thin. Mouth-opening broad; proboscis short and strong, 2.5 mm. long, black above, dark red below near the base, glabrous at end; palpi yellow, thin, pale-haired. Thorax black, densely clothed with very short pale yellowish hairs; it seems that on the back there are 4 longitudinal stripes of more yellow pubescence, more distinct on the posterior half; pleurae grey-dusted, with short hairs and with some bare parts, but the metapleura with a fine, whitish tuft; the bristles are long, yellow; below the notopleural line, on the upper part of the pleurae, there is a dense tuft of short, yellowish, bristly hairs. Scutellum red, black at base, grey-dusted, clothed like the thorax with strong but short pale bristles on the hind border. Squamae dirty pale-yellowish, with whitish fringe; halteres

yellow, with white knobs. Abdomen ovate, red, the two first segments and the middle of the third black; it is clothed with dense, whitish, depressed pubescence; at the hind border of each segment there is a broad band of erect, pale yellowish hairs, but there are no distinct bristles; the long abdominal fur appears thereby to be disposed on 5 parallel rows alternating with tomentose bands; venter red, with short whitish hairs; genitalia red. Legs entirely reddish-yellow, even on the coxae and at the end of the tarsi; they have whitish scales and very scarce pale hairs on the femora; middle femora with 4, hind femora with 6 yellow spines underneath; spicules of the tibiae yellow, those of the front pair very minute; claws red, with black end; pulvilli narrow, dirty-whitish, shorter than the claws. Wings short, with a faint yellowish tinge on the basal half; veins yellow; basal comb very small, pale yellowish; ahula broad, rounded, hyaline with pale fringe. Upper branch of the cubital fork arched in the middle and much retreating at base; discal cross-vein on the middle of the short and broad discoidal cell, which is of triangular shape, with the two lower veins of nearly equal length; first posterior cell narrowed at end, but the second posterior cell not triangular; apical cross-vein of the discoidal cell much longer than the discal cross-vein.

A very small female specimen (only 4 mm. in length) from Namaqualand, O'Okiep, 1885 (L. Péringuey), has the frons with parallel sides and about as broad as the eye; the thorax is black on the back, with 4 longitudinal greyish stripes, 2 of which are on the dorso-central lines and 2 on the sides; abdomen with rather distinct pale yellowish bristles at hind border of the segments.

DISCHISTUS NIVEUS, Macquart (1840).

A small species, very distinct on account of its entirely black legs and its white fur.

Macquart described the male from the Cape, but without mentioning the colour of the legs; from his short description it seems to be a species of *Gonarthrus*, but the position of the discal cross-vein differs. I refer to this species a female specimen from Bushmanland, Jackal's Water (Cape), October, 1911 (R. M. Lightfoot).

Length of body 6 mm.; of a wing 5.5 mm. Head, thorax, scutellum and abdomen black, grey-dusted and clothed with a short golden tomentum, which is silvery only on the face and at the hind borders of the eyes. All the hairs are long, but rather sparse, of a silvery white colour; on the pleurae there is no golden tomentum, only white scaly hairs and no distinct bristles between the hairs. Frons much

broader than the eye. Antennae entirely black, the third joint one and a-half times as long as the two first taken together, linear, obtuse, thinner than the rather thin, short and white-haired first joint. Proboscis entirely black, 3.5 mm. long. Halteres whitish. Legs white-scaled, with white spines and white spicules; claws black; pulvilli absent. Wings entirely hyaline, vitreous, with pale yellow veins, no distinct comb, but the costa is white-scaled at the base; alula broad, rounded and fringed with white. Upper branch of the third vein very much retreating at the base; discal cross-vein placed much before the middle of the discoidal cell, which is as broad as long, triangular; first posterior cell not narrowed at end; anal cell sometimes narrowed at end.

DISCHISTUS OVATUS, sp. nov., ♂.

A dark species with long ovate body, recalling that of *Bombylius kilimandjaricus* and differing from the other species of the present group in having the hind femora not spinose below.

Type ♂, a single, not well-preserved specimen from the Cape, without special locality.

Length of body 11 mm.; of wing 10 mm. Head dark-tawny, grey-dusted, black on the occiput; this last little developed, clothed with short and dense black hairs above which become very short and brownish below and merge into the less developed beard of a paler colour; ocellar tubercle black-haired. Eyes with equally small areolets, less approximated, the frons at the narrowest point being as broad as the vertical triangle; it is less broadened forwards, and bears sparse and short, erect black hairs; face gently rounded, clothed like the cheeks with sparse black hairs, with some shorter yellowish ones intermingled. Antennae entirely black, but the first joint pale-dusted, three times as long as the second, clothed on the two sides with long black hairs; third joint as long as the two first joints taken together, not broader at the base than the second, gradually tapering to a short point. Proboscis entirely black, rather thick, 4 mm. long. Thorax, scutellum and abdomen deep black, clothed with rather short dark brownish hairs, which, viewed from the front, are shining-pale; there are no black hairs intermingled; the bristles at the postalar cells and at the hind border of the scutellum, like those of the hind border of the abdominal segments, are black and well developed. Pleurae below and breast with greyish hairs; metapleurae with whitish and black hairs intermingled. Squamae tawny, with short whitish fringe; halteres yellowish-brown. Venter black, reddish-yellow at base, grey-haired; genitalia dark red. Legs

with the coxae entirely yellow, pale-scaled, scarcely white-haired on the femora, which are unarmed, and having even on the hind pair only a few rigid hairs; spicules of the tibiae less developed, yellow, claws yellow, with black point; pulvilli not distinct. Wings vitreous, hyaline, faintly yellowish at base and along the costal cell; basal hook strongly reddish; basal comb distinct, black, yellowish tomentose; alula broad, yellow-fringed. Veins black, but the entire first vein and the base of the others are yellow; upper branch of the cubital fork retreating; first posterior cell narrowed at end; discoidal cell short and broad, truncate at end, its terminal vein being longer than the discal cross-vein, which is placed before the middle; the two lower veins of the discoidal cell are of almost equal length.

DISCHISTUS SERIATUS, Wiedemann (1821).

Closely allied to the preceding species, from which it is distinguished by the smaller size, the darker legs and the well-developed spines at the underside of the hind femora.

A very small male specimen, measuring only 5 mm. in length, from Van Wyk's Vlei, Carnarvon (Cape) (E. G. Alston), 1893. Wiedemann has described the female from the Cape; the eyes of the male have equally small areolets and are approximate to a distance equal to the distance of the posterior ocelli. Proboscis short; genitalia dark red; abdomen mainly black-haired; pulvilli very short. Wings entirely hyaline; first posterior cell not narrowed at end and very long; discoidal cell obtuse at end, twice as long as broad.

DISCHISTUS VITTIPES, sp. nov., ♂.

A species of proportionally large size, having strongly spinose legs and broadly infuscated, very long wings, which have in addition a rather large basal comb.

Type ♂. a single specimen from Bushmanland, Jackal's Water (Cape), October, 1911 (R. M. Lightfoot).

Length of the body 10.5 mm.; of the wing 12 mm. Head reddish, grey-dusted, black on the occiput, which is developed and convex, clothed with pale yellowish hairs above, with whitish and shorter ones on sides and below, without any black hairs; beard scarce, white. Frons broad; eyes with equal areolets, less approximate, separated for a distance twice as broad as the ocellar triangle; ocellar tubercle with some dark hairs; frons little broadened forwards, with sparse dark hairs in the middle and other whitish and longer hairs on the sides. Face very broad and long, gently curved, clothed like the very narrow cheeks with scarce and long white hairs; genae

broad, red before and black beneath. Antennae dark reddish, but infusate above at the base and on the basal half of the third joint; first joint three times as long as the second, with sparse and short whitish hairs; third joint narrow, linear, a little longer than the first two taken together. Proboscis entirely black, 7.5 mm. long; palpi reddish-yellow, thin, almost bare. Thorax black, with red humeral calli; it is entirely clothed with dirty-greyish hairs having a white sheen if looked at from a front view; bristles long and entirely yellow; pleurae grey-dusted, the sternopleura with a broad red band above; they are whitish-pilose below and on the breast; sternopleura with a dense tuft of long pale hairs. Scutellum red, narrowly black at the base, clothed like the thorax with long whitish bristles at the hind border. Squamae yellowish, with white fringe; halteres yellow, with white knob. Abdomen short oval, black, rather shining, broadly red on the sides; it is clothed like the thorax and has whitish bristles at the hind border of the segments; genitalia reddish above, black below; venter red, each segment broadly black at the base, with sparse greyish hairs. Legs yellow, with the tarsi blackened at end; the femora have a well-marked black stripe below from the base to the end, and are provided with whitish hairs and strong yellow spines, 3-4 on the middle, 5-6 on the hind pair; spicules of the tibiae much developed, yellow; claws black, with a red base; pulvilli very short. Wings very long and broad; basal comb pale-yellowish, larger than usual; alula broad, hyaline, pale-fringed. The wings have only the apical third greyish-hyaline; the rest has a yellowish-brown infuscation which forms broad dark borders along the veins, the centre of the cells being paler. Veins black, the first entirely and the others yellow at the base; upper branch of the cubital fork retreating at base; first posterior cell narrowed at end; discal cross-vein set much before the middle of the discoidal cell, which is very long, being three times as long as broad, obtuse at the end and with parallel sides, the second of the lower veins being three times as long as the first; anal cell narrowed at end.

DISCHISTUS VARIEGATUS, Macquart (1840).

A species very distinct owing to the red proboscis, but closely allied to the preceding one; it is perhaps its female. Macquart has described the female from the Cape, and likewise there are in the collection females from Namaqualand, Springbok (Cape), October, 1890, and from Bushmanland, Jackal's Water (Cape), October, 1911 (R. M. Lightfoot). The present species show a very striking affinity with

Bombylius brachyrrhynchus, sp. nov., taken at the same time and in the same locality, and which has also a red proboscis.

The ground-colour of the head is reddish, but it is concealed below the white dust, which is very dense on the rather developed and prominent occiput; the soft hairs of the upper part of the occiput, the bristly hairs of the ocellar tubercle, and those, likewise bristly, of two tufts, set one on each side of the frons, are yellowish; the other hairs of the head are white or even silvery. Frons as broad as one-third of the head. Antennae reddish, more or less infuscated above; the basal joint with short yellowish hairs above and long white hairs below. Proboscis entirely red above and below, with a black tip; palpi pale-yellow, almost bare; proboscis 4 mm. long. Thorax black, clothed with yellowish and white hairs; pleurae reddish, white-dusted, with white and yellowish hairs; metapleurae with a tuft of white and yellow hairs. Scutellum red, hairy like the thorax, and with yellowish marginal bristles. Squamae brownish-yellow, white-haired; halteres yellow, with a whitish knob. Abdomen as in the preceding species. Legs as in the preceding and even more spinose, but the femora are not striped and only a little darkened below near the base; pulvilli well developed. The wings are very like those of the preceding species, but there is no broad infuscation in the middle; they are only yellowish near the base and along the fore border right to the basal and discal cross-veins, which are sometimes narrowly margined with fuscous.

DISCHISTUS TRIPUNCTATUS, Macquart (1840).

Distinguished by the red proboscis and red antennae, by the deep black body with dark fulvous pubescence and by the tripunctate wings.

The female was described as a *Bombylius* from an unknown country by Macquart. There is in the collection a male specimen from Namaqualand, Springbok (Cape), October, 1890 (R. M. Lightfoot). Notwithstanding the differences the present species also may prove to be the male of the preceding, as it was caught in the same locality and at the same time.

Length of the body 7 mm.; of a wing 7 mm. Head black, but densely clothed with a dark dust and by a short fulvous pubescence which is destitute of black hairs; occiput less developed; beard scarce and pale-coloured. Antennae approximate at the base, rather short, of a dark reddish colour; the first joint is more than 3 times as long as the second, and provided with tawny hairs; third joint a little more darkened above, linear, gradually attenuated, obtuse, not longer and

never thicker than the first, ending in a thin style. Proboscis short, 2 mm. long, red above with black tip, entirely black below or narrowly red only at the base. Thorax and scutellum of a deep black colour, clothed by an equal, rather short, dark fulvous pubescence, with long dark reddish bristles on the postalar calli and on the hind border; pleurae with more reddish hairs, reddish-dusted, almost bare below and on breast; metapleural tuft dense, of reddish colour. Squamae brownish, with short yellow fringe; halteres yellow. Abdomen ovate, deep black, but with dark-red sides and red genitalia; it is rather shining and has a bluish tinge on the middle of the tergites; it is clothed like the thorax with dark-reddish bristles at the hind border of the segments; venter red, with short hairs, pale at the base and reddish at tip. Legs pale yellow, with long fulvous hairs on the femora, well-developed fulvous spicules on the tibiae and 5 long fulvous spines on the under-side of the hind femora; claws red with black tip; pulvilli dirty-whitish, a little shorter than the claws. Wings hyaline, with a small but distinct fulvous basal comb; they are yellowish-fuscous near the base and along the costal cell; the 3 fuscous spots are as described by Macquart. Veins dark yellow, paler near the base; alula of great size, yellowish brown, with a pale fringe; upper branch of the cubital fork much retreating at the base; discal cross-vein set much before the middle of the discoidal cell. First posterior cell a little narrowed at end; discoidal cell long, with parallel sides, almost rectangular, its apical vein being almost twice as long as the discal cross-vein; anal cell broad in the middle and narrowed at end.

DISCHISTUS CORACINUS, Loew (1863).

An entirely deep black species of smaller size, at once distinguishable from all the other species here recorded on account of its entirely black hairs.

A male specimen from Pretoria, November 20th, 1916 (G. A. H. Bedford). This and the following species belongs to the group of *D. minimus*, a group which was believed to be very scarcely represented in the South African fauna. The present species was originally described from Bloemfontein. To the short diagnosis may be added: Eyes touching on a line longer than the frontal triangle; occiput not prominent, with rather long black hairs at the border; antennae entirely black, with the first joint a little inflated and black-haired, and with the third joint more than twice as long as the first, quite linear, with a short style at end. Proboscis entirely black, 1.5 mm.

long. Thorax without distinct bristles; hind border of the scutellum with thin and long bristly hairs; squamulae black, and black-haired. Abdomen with long bristly hairs at hind border of the segments. Coxae black and black-haired; hind femora with 2 spines below on the apical half; all the spines and the spicules of the legs are black. Wings with no distinct basal comb; 2nd longitudinal vein straight and gently curved at end; upper branch of the 3rd longitudinal vein long and oblique, a little S-shaped, not retreating; small cross-vein considerably before the middle of the discoidal cell; third posterior cell of a regular trapezoidal shape; discoidal cell rather broad.

DISCHISTUS PECTORALIS, Loew (1863).

A middle-size species of an entirely deep black colour, but clothed with a yellowish furriness which is black only on the breast. A male specimen from Pretoria, December 12th, 1916 (G. A. H. Bedford). Originally described from Bloemfontein, it is closely allied to the preceding species, being distinct by the greater size, the yellowish fur-like pile of body, the broadly yellow ends of femora and the yellowish base of wings. I have not succeeded in finding characters of distinction between the present species and the West African *D. senegalensis*, Macq.

Proboscis entirely black, 3 mm. long; palpi black; occiput a little prominent, with yellowish hairs, those of the hind border being darkened. Thorax, scutellum and abdomen without distinct bristles; mesopleurae with some black hairs; squamulae dirty whitish, with whitish fringe; halteres whitish. Hind femora with a complete row of 4-5 long spines below; spicules of the tibiae long and black. Venation as in the preceding species, but the upper branch of the cubital fork is shorter and more straight, and nearly parallel with the hind border of the wing.

SOSIOMYIA, gen. nov.

This new genus has a striking resemblance to *Adelidea anomala*, from which its type-species is at once distinguished by the conspicuous bristles of the third antennal joint and by the black femora. I believed at first that the present insect might prove to be *Adelidea fuscipennis* of Macquart because this last species is different from *Sobarus anomalus* as pointed out by Loew. But Macquart says nothing of the bristles of the third antennal joint, which are, moreover, more developed than in the genus *Acreotrichus* of the same author;

the figure also lacks these bristles; and besides, in the description of *A. fuscipennis* we read "*pedibus flavis*," and "*petite nervure transversale située aux deux tiers*": two characters which applied to *A. anomalus*, but not to the present species. It is therefore certain that Macquart had not *Sosiomyia* before him when describing *Adelidea*.

I have no hesitation therefore in describing the new genus, the name of which (from *Sosias* and *myia*) is an allusion to its deceptive resemblance to *Adelidea anomala*; and it is very curious that the present collection has no representatives of the last species, which does not seem to be rare in South Africa.

Body short and broad, rotund. Head narrower than the thorax. Occiput rather developed, swollen, provided in the female with bristly hairs. Ocelli disposed in an equilateral triangle, on a little prominent tubercle. Eyes with equally small areolets in both sexes, approximate in the male, very distant in the female; the frons in the male at the narrowest point is as broad as the distance between the two basal ocelli; in the female it is one and a half times as broad as the eye, with parallel sides and with numerous bristles. Face broad in both sexes, rounded, less prominent, without bristles, genae rather narrow, without bristles. Antennae approximate at the base, and of a very peculiar and characteristic shape; first joint a little, yet distinctly thickened, twice and a half as long as the second, with long hairs directed forwards; second joint globular; third as long as the first two together, broad at base in the male, gradually tapering to a point but deeply excavate below near the middle; in the female the basal two thirds are very broad and ovate, much broader than the second joint, the apical third is abruptly attenuated, linear in both sexes, truncate, with a thin and short style above, and having below near the end a tuft of 7-10 rather long hairs; near the base it is provided above with 4-6 very long and strong bristles, directed forwards and nearly reaching the end of the joint. Mouth-opening broad and short; proboscis short, not longer than the thorax, strong, with broad and long, lanceolate terminal labella; palpi concealed. Thorax with very numerous long bristles on fore border (more developed in the female) and on the sides; some shorter bristles are present even on the back; pleurae less pilose; metapleura bare. Scutellum with numerous and long marginal bristles disposed in three irregular rows on the hind border; abdomen short and broad, with the bristles at the hind border of the segments forming complete rows. Legs stout, with the femora spinose beneath; tibiae with much developed and strong spicules; claws curved; pulvilli as long as the claws. Wings long and rather narrow. Praealar hook short and acute; basal comb very small, but distinct;

alula rounded, of moderate size, but destitute of fringe. Second longitudinal vein gently curved at end, the marginal cell being broad at end; three submarginal cells present; upper branch of the cubital fork much retreating at base, the cross-vein dividing the first submarginal cell being situated near its base and distinctly longer than the part of the third between it and the origin of the fork; first posterior cell not narrowed, as broad at end as in the middle; discal cross-vein after the middle of the discoidal cell, but not so much as in *Adelidea*. Discoidal cell triangular at base, truncate at end and there with parallel sides, its terminal vein being as long as the discal cross-vein; the two lower veins of the discoidal cell are of equal length, but form a deep angle in the middle at their junction; second posterior cell narrow and long, rectangular, the third being much broader. Anal cell narrowed at end; axillary lobe well developed, but very little prominent; ambient vein complete. The wings are besides strongly pilose at the base from the first to the sixth vein, which is not the case in *Adelidea*.

Type: the following new species.

SOSIOMYIA CARNATA, sp. nov., ♂, ♀.

A strange fly, very like *Adelidea anomala*, but distinguished, besides the generic characters, by the darker general coloration, by the legs having black femora and partly black spicules on the tibiae, and by the different pattern of the wings.

Type ♂ and type ♀, a single pair from the Cape, without precise locality.

Length of the body 6.5–7 mm.; of a wing 8 mm.; spread 20 mm. Head entirely black, even on the mouth borders, grey-dusted, with some golden tomentum on the upper border of the occiput and on the frons; hairs of the occiput of middle length, golden yellow above, white and shorter on the sides and below; beard long, but not dense, white; hairs of the ocellar tubercle black. Frons in the male with a few black hairs over the golden tomentum in the narrowed basal half; densely clothed in the apical half with pale yellowish hairs which are directed forwards and outwards. The numerous bristles of the frons of the female are golden-coloured and only near the antennae are yellowish hairs. Face and cheeks in both sexes whitish-dusted and with long white hairs, which only on the upper part are pale yellowish. Antennae entirely black, grey-dusted; the hairs of the first joint are partly yellowish and partly golden; those of the third are also pale-

yellowish, but the strong bristles of the base are black in the male and dark-golden in the female. Proboscis entirely black, 3 mm. long. Thorax and scutellum black, densely bluish-grey dusted; they have a scarce but well-developed golden tomentum on the back, and are clothed with erect, rather long and scattered dark hairs, with some shorter pale ones and very numerous and very long golden-red bristles. The pleurae are densely pale grey-dusted, and have scarce white hairs below and on the middle, being bare on the metapleura and on the surrounding parts; the mesopleural bristles near the root of the wings are golden like those of the back. Squamae brownish black, grey-dusted with yellow fringe. Halteres yellow, with paler knob. Abdomen black, dusted-pollinose, pubescent like the thorax and provided with golden-red bristles; on the sides are numerous yellow hairs intermingled with the dark ones. Male genitalia small; concealed, black, yellow-haired. Venter entirely black, grey-dusted, without the yellow hind borders of *A. anomala*, clothed with white hairs. Coxae and femora black, the former with long white hairs, the latter whitish pubescent, with some white hairs below at the base and with yellow tips; their spines are strong and long, yellow, 2-3 on the middle, 5-6 on the hind pair. Tibiae and tarsi pale yellow, only the last tarsal joint being black or darkened, with long and stout spicules, even those of the front pair, the spicules being in great part black, but those of the inner side are yellow. Claws yellow, with black tip; pulvilli dirty-whitish. Wings greyish-hyaline, with the base and the fore half infuscated; the fuscous spots are more numerous; and more distinct than in *anomala*. There is a broad quadrate spot on the discal cross-vein, extending above almost to the second vein and preceded by a hyaline space of equal size; two united spots at the base of the cubital fork and of the cross-vein delimiting the upper submarginal cell; a spot on the vein at the end of the discoidal cell; another at the extreme basal angle of the third posterior cell and a third at the base of the fourth posterior cell; there is besides a rounded spot before the end of the anal cell, of which there is no trace in *anomala*. The second basal cell has a rounded whitish spot above before the base of the discoidal cell, which is not distinct in *anomala*. The alula is dark brownish, like the squamae and the extreme base of the wings; the small basal comb is black, but densely golden yellow-tomentose and white pubescent at base, this last pubescence extending to the base of the sixth vein. The veins are dark yellow, but the first and the costa to the end of the upper branch of the cubital fork are pale yellow; the costa is golden-tomentose.

SUBFAMILY CYTHEREINAE.

ONIROMYIA, gen. nov.

An aberrant genus, apparently allied to *Amictus* on account of the narrow and short wings with similar venation, but distinct by the different antennae, absent ocelli, absent abdominal macrochaetae and haired metapleurae. Owing to the shape of the occiput the genus must be placed in the *Cythereinae*, notwithstanding the approximate antennae; the form of these organs agrees with that of *Peringueymyia*, from which it is differentiated by the narrow elongate body with conical abdomen and by the very different venation.

Head of female (the male being still unknown) a little broader than the thorax; frons broad, broader than one third of the head, with parallel sides and long hairs; occiput flat, not bilobed above, briefly pilose, without ocular fringe; no ocelli and no ocellar tubercle; there is instead a depression in the form of a shallow furrow. Eyes bare, with entire hind border. Face very short, not prominent, bare, but concealed below the long hairs of the base of the antennae; genae and chin rather broad, haired. Antennae inserted near the mouth border, but at the level of the middle of the eyes, approximate at the base; first joint thickened, with a prominent tubercle below, bare above, densely clothed with a tuft of exceedingly long and soft hairs underneath; second joint small, short, globular; third joint small, once and a half as long as the two basal joints taken together, ovate at base, narrow and styliform for more than the terminal half, this narrowed part being provided with rather long hairs chiefly on the under side and ending with a thin but rather long style. Proboscis horizontal, longer than the head and thorax together; mouth-opening small, subquadrate; palpi rather short, with long hairs at end. Thorax short, subquadrate, with not very strong praesutural and supra-alar bristles; metapleural tuft long and dense, fan-shaped. Scutellum with bristly hairs only at the hind border; squamae less developed, briefly hairy on the border; mesophragma on the sides with a membranous tubercle as in *Systropus*. Abdomen very long, conical, acute at end, destitute of macrochaetae at the hind border of the segments; female genitalia with a yellow bladder above, and destitute seemingly of a terminal circle of spines. Legs stout and short; the hind femora only with a few spines below at apex; all the tibiae with numerous and long spicules and with numerous spurs at end; pulvilli well developed.

Wings very short and narrow, stalked at base, destitute of alula; first longitudinal vein straight, less looped at the end and not retreating; only two submarginal cells. Upper branch of the cubital fork straight, not at all retreating, running parallel with the border; discal cross-vein situated in the last third of the discoidal cell; four posterior cells, the 1st of which is closed and briefly stalked, the 2nd and 4th are broadened, the 3rd narrowed at end. Discoidal cell very narrow, with almost parallel sides, its terminal cross-vein being straight and only a little longer than the discal cross-vein; anal cell open but narrowed at end; ambient vein complete. The supernumerary vein in the anal cell placed in the concave fold just below the sixth vein, long and very distinct, extending almost to the end of the anal cell.

Type: *Eurycarenum pachyceratus*, Bigot, a species upon which, before seeing the co-types, I have made many wrong speculations; whence the name, from *oneiros*—dream.

ONIROMYIA PACHYCERATA, Bigot, ♀.

A peculiar species with thickly pilose head and thorax, at once distinguished from any other by its generic characters. Bigot has described it from the Cape in a recognisable manner, much better than usually with him, and has pointed out that it must be the type of a new genus. In the collection there is a female specimen from Namaqualand, O'Okiep, October, 1890 (R. M. Lightfoot). Length of the body 9.5–10 mm.; of a wing 6.8–7 mm. To Bigot's description may be added: Occiput grey-dusted, but the vertex and the frons are shining black; the tuft of white hairs at the under side of the first antennal joint is very long, and is fused with the tuft of the sides of the frons and of the base of the cheeks, forming a sort of moustache; proboscis black, 5 mm. long; palpi black, with pale yellowish hairs, all the thoracic macrochaetae are yellow; metapleural tuft pale yellowish; squamae dirty-yellowish, with sparse white hairs. Abdomen at end with long and rigid black hairs. Venter black, grey-dusted, densely clothed with white scaly tomentum with some long white hairs at base. The ground-colour of the tibiae and of the praetarsi of the 4 anterior legs is yellow; all the spines and spurs are yellow, but on the hind tibiae, partly black; hind femora with 3–4 short yellow spines below at the end on the outer side; claws pale yellowish red, with black tip; pulvilli dirty whitish. Wing-veins dark brown, pale reddish at base; costa very thin at base, with scarce pale yellowish scales.

SUBFAMILY USIINAE.

CORSOMYZA, Wiedemann (1820).

Of this peculiar genus, very characteristic of the South African Fauna, there are in the collection numerous specimens, representing all the known species, with the addition of some new ones. The special feature of the genus resides in the facial circular brush, which consists of a dense pubescence of short hairs clothing the anterior part of the frons and the whole face, which is surrounded by more rigid and often differently coloured hairs. From this dense brush are projecting on the upper side the antennae (the basal joints of which are often clothed by a tuft of hairs of different colour), and below the proboscis and the long palpi. A similar conformation of the face is to be found only in the North American genus *Pantarbes*, Osten Sacken, which, however, has a closed first posterior cell, and in the Australian genus *Lasioprosopa*, Macquart. But this last genus, as already stated by Schiner in the Novara work, is synonymous with *Corsomyza*, its type species, *Lasioprosopa bigotii*, being *Corsomyza nigripes*, as confirmed by a specimen in the collection labelled under this name by Bigot.

The species in the collection are much alike in habitus and in the colouring of the body fur; they probably mimic Hymenoptera, having a very great resemblance to certain species of *Osmia*. They can be distinguished as follows:

- 1 (14). Third antennal joint wholly black; anal cell closed and usually provided with a short stalk.
- 2 (3). First antennal joint elongate, as long as the half of the third, which is broad; base of the antennae pale-haired; face yellow, with the circular brush not margined with black; tibiae and tarsi red.
simplex, Wied.
- 3 (2) First antennal joint short, always shorter than the half of the third.
- 4 (5) Hind tibiae densely feathered with very long black hairs; face yellow, the circular brush not margined with black hairs; antennae with the first joint pale-haired and the third joint broad.
pennipes, Wied.
- 5 (4) Hind tibiae not densely feathered, sometimes only thinly ciliated.
- 6 (13) Facial brush formed by whitish or pale yellowish hairs.
- 7 (8) First antennal joint clothed on the upper side with black hairs, which form a striking black tuft within the brush; this last is surrounded with dense black hairs. Tibiae and tarsi black; third antennal joint narrow, but a little dilated at end *nigripes*, Wied.
- 8 (7). First antennal joint with yellowish or whitish hairs; third antennal joint filiform and much dilated at end.

- 9 (12). Abdomen as broad as or only a little narrower than the thorax, not, or less distinctly, conical; halteres with a white knob.
- 10 (11). Tibia and tarsi red; chin with a dense tuft of black hairs; femora dark-pilose; species of greater size *hirtipes*, Macq.
- 11 (10). Tibiae and tarsi black; chin destitute of black hairs; femora white-pilose below; eye-division in the male less distinct than usually.
clavicornis, Wied.
- 12 (9). Abdomen conical, only half as broad as the thorax; halteres with dark knob; tibiae and tarsi dark reddish-brown; sometimes there are three submarginal cells in the wing *anceps*, Bezzi.
- 13 (6). Facial brush formed entirely by black hairs, with a yellow tuft on the base of the antennae; tibiae and tarsi black; third antennal joint thin at base and broadly clavate at end *bicolor*, sp. nov.
- 14 (1). Third antennal joint rufous; anal cell narrowly open at the wing border, tibiae and tarsi yellow *ruficornis*, sp. nov.

CORSOMYZA SIMPLEX, Wiedemann (1820).

A species of proportionately large size, distinct from any other by the elongation of the first antennal joint. Described and figured from the Cape by Wiedemann, and not recorded subsequently; but I am convinced that Macquart's *C. fuscipennis* from the Cape is the female of this same species, chiefly on account of the form of the antennae; the infuscation of the wings is in the male more yellow than fuscous. There is in the collection a male specimen from Cape Town, 1888 (W. F. Purcell), and another example from Namaqualand, 1889 (R. M. Lightfoot).

The pubescence of the body is of a pale fulvous colour, but shows white gleams when seen from the front. Occiput shining black, with a faint grey dust and with scarce and short pale yellowish hairs; the crest of white hairs on the vertex has a black tuft on each side; frons without dust, broad, almost twice as broad as the distance between the basal ocelli. The face and the cheeks are entirely of a pale yellow colour; the whitish circular brush is surrounded below by dark, but not black, hairs. Very characteristic are the antennae, as shown in Wiedemann's figure. The first joint has only whitish hairs. Beard white. Proboscis entirely black, 5 mm. long; palpi very long, as long as one third of the proboscis, with scarce and thin hairs.

The hairs of the pleurae are partly white and partly black; on the mesopleura there is a white vertical stripe, with a black one on each side; breast black-haired. Femora with dense black hairs below; the four anterior tibiae nearly bare; the hind tibiae with dark ciliae, but not properly feathered; last tarsal joint black; claws red with black point; pulvilli yellowish. The yellowish infuscation of the wings is

more intensive in the second basal cell, but not as strikingly as shown in Wiedemann's figure. The veins are intensely rufous, as in the other species of the genus.

CORSOMYZA PENNIPES, Wiedemann (1820).

Nearly allied to the preceding species, but distinct from it owing to the short first antennal joint and by the white- and yellow-haired pleura, and distinct from any other on account of the densely and long-feathered hind tibiae. Wiedemann has described the female from the Cape; there is in the collection a male from the Cape, without precise locality. *C. pennipes* of Macquart, "Suites à Buffon," is doubtful, because the author says that the femora (and not the tibiae) have long hairs.

Head exactly as in the preceding species; the first antennal joint is less than one-third of the third, and of a similar shape, which is very different from that of the species following. Eyes more broadly separated; the middle frontal furrow is even more distinct. Proboscis black, shorter, only 3.5 mm. long; palpi black, long, with much longer and dense, almost leathery hairs. Pleurae destitute of black hairs; on the upper border of the metapleurae there is a rich tuft of bright fulvous hairs, the other hairs being whitish; breast with pale hairs. Coxae with yellowish or whitish hairs; the feathering of the hind tibiae is formed by dense and numerous, very proximate black hairs, which on the upper side are longer and equally extended to the end, while on the under side they are shorter and growing shorter before the apex, which is bare; even the hind tarsi are feathered; no other species has such a conspicuous feathering of the hind legs.

Wings as in *C. simplex*, but clearer and with a very faint yellowish tinge at the base and along the fore border. The venation is identical.

CORSOMYZA NIGRIPES, Wiedemann (1820).

Allied to the two preceding species, but distinguished by the wholly black legs, by the black-haired first antennal joint, and by the facial brush being surrounded by black hairs.

Described from the Cape and subsequently recorded by Loew, Schiuer, Ricardo and Becker; there are in the collection two males from Cape Town, one of which, caught in 1874, is labelled by Bigot "*Lasioprosopa bigotii* Macq."! The colour of the fur of the body in the present species varies from bright fulvous to pale yellowish and shining white. To Loew's good description may be added: Frontal furrow narrow but deep. The shape of the third antennal joint in the present

species is intermediate between the non-clavate form of *simplex* and *pennipes* and the very clavate form of the following species; it is well figured by Becker. Strongly characteristic of the species is the tuft of black hairs on the under side of the base of the antennae, which is very strikingly within the brush. The beard is blackish, while in the two preceding species it is white. Proboscis black, short, only 2.5-3 mm. long; palpi black, thin, with short black pile. The face is distinctly yellow on the under side below. Scutellum black. Claws red, with black point; pulvilli yellowish; hind tibiae with long and thin ciliae outwards, which are not continued on the praetarsus.

CORSOMYZA HIRTIPES, Macquart (1840).

Closely allied to *nigripes* and of equal size, but at once distinguished by the form of the third antennal joint, by lacking the black hairs at the base of the antennae and by the colour of the legs.

Macquart has described the female (?) from the Cape; in the collection there are two males and one female from Namaqualand, Port Nolloth (Cape), August, 1890 (R. M. Lightfoot).

Both sexes are coloured alike, the pubescence being of a paler colour than in most specimens of *nigripes*; the length is 8-9 mm., but one male measures only 6.5 mm. Occiput black, whitish-tomentose on the sides at the border of the eyes, with short and scarce pale hairs; at the vertex there is the usual transverse crest of erect hairs, which are of a pale yellowish colour, only in the male with some black hairs on the sides near the eyes. Frons shining black, with erect black hairs; only near the antennae is a circle of pale yellowish hairs; it is in the male as broad as twice the distance between the basal ocelli, and in the female it is more than twice as broad as in the male. Face entirely yellow in both sexes, black only in the hind part of the genae and on the chin; the brush is shaped as in *nigripes*, and is likewise surrounded with black hairs, which are less developed in the female, but beneath, at the base of the proboscis, there is a broad tuft of black hairs, triangular in shape, with the vertex directed forwards and the base merged in the black beard.

Antennae black, with the first joint short, densely clothed with long pale-yellowish hairs radiating all round, with some black hairs intermingled beneath, but not forming a distinct black tuft within the brush; third joint very long and thin, filiform, with the last fourth part abruptly dilated in an ovate club, which is truncate at end. Proboscis black, short, not more than 3 mm. in length; palpi thin and long, black, with scarce and short black hairs. Thorax and scutellum

entirely black; the hairs on the pleurae are whitish or pale yellowish, but in the male those of the lower part and of the breast are blackish. Halteres with white knob; squamae pale-yellowish, white fringed, like the plumula. Abdomen shining black, clothed with equal hairs, which are denser in the male, of a pale yellowish colour and shining white if looked at from the front; venter black, with short and scarce pale hairs. Femora black, with yellow tip, clothed below with dense and long hairs, partly whitish and partly dark, these last being sometimes predominant; tibiae and tarsi red, the hind tibiae being ciliated outwards, more densely in the male than in the female; last tarsal joint black; claws black with reddish base; pulvilli yellowish. Wings as in *nigripes*, but with a distinct milky-white tinge.

CORSOMYZA CLAVICORNIS, Wiedemann (1819).

Closely allied to *hirtipes*, but distinguished by the usually much smaller size and by the entirely black face and black legs. Described from a male from the Cape, and subsequently recorded from the same locality by Walker. There are in the collection a male from Dunbrody, Uitenhage (Cape), December, measuring 6 mm. of length, a female from Namaqualand, Port Nolloth (Cape), August, 1890, 6.5 mm. long (R. M. Lightfoot), and a doubtful female from the same locality, only 4 mm. long.

Head exactly as in *nigripes*, but the black outline of the facial brush is less developed and the first antennal joint has no black tuft beneath; beard pale yellowish; eyes with the division of the broader areolets less marked than in all the preceding species. Third antennal joint very characteristic, thin and filiform basally, much broadened apically on the last third or more, and with the broadened part incised beneath. Proboscis black, proportionally long, measuring about 3 mm.; palpi black, long, with a sparse black pile. Thorax, scutellum and abdomen as in *nigripes*, but the pleurae and breast with entirely whitish hairs. Halteres yellow, with a white knob; squamae and plumula with a white fringe. Legs entirely black, the femora with long and numerous white hairs below, which only on the front pair are more fuscous; hind tibiae shortly and scarcely ciliated outwards; claws black, pulvilli dirty-yellowish.

The female is very like the male, the frons being almost twice as broad. The broadened end of the third antennal joint is thinner and more regular; the fur of the body is coarser.

In a female specimen from Hottentots Holland Mountains, Caledon, C.C., 1916 (K. H. Barnard), the upper branch of the cubital

fork shows in both the wings, at the angular basal bend, a short stump of vein, which must be considered as the beginning of the cross-vein which divides the first submarginal cell into 2 cells, as is sometimes the case with *C. anceps*, Bezzi.

CORSOMYZA ANCEPS, Bezzi.

A smallish species, with bright fulvous pubescence and with clavate antennae, distinct by its narrow and conical abdomen, by the dark halteres, and by the reddish-brown tibiae and tarsi. I have described the male in my work on the Bombyliidae of the British Museum. That specimen bears on the wing 3 submarginal cells, making therefore the separation of the genus *Callynthrophora* on this character alone very doubtful. There is in the collection a very small female from Namaqualand, Port Nolloth (Cape), August, measuring only 4 mm. in length; it agrees with the male, with the following exceptions: The frons is more than twice as broad; the face is dark brownish, with a fulvous brush, which is not marginated with black, but is entirely black below on the genae and on the chin. Wings exactly as in the male, but without any trace of the 3 submarginal cells.

CORSOMYZA BICOLOR, sp. nov., ♂.

A small species allied to the preceding one, but distinct from it and from any other on account of the wholly black facial brush, in the centre of which the radiating hairs of the base of the antennae form a striking yellow tuft.

Type ♂, a single specimen from O'Okiep, November, 1886 (L. Péringuey). The possibility is not excluded that the female described above as belonging to *anceps* may be that of the present species, notwithstanding the great difference in the colour of the facial brush.

Length of body 7.5 mm.; of a wing 6 mm.; of wing expanse 14 mm. Head entirely shining black; occiput with a faint grey tomentum at the sides on the eye borders and with scarce and short yellow hairs above in the middle; hairs of the vertical crest yellow in the middle and black on the sides; frons twice as broad as the distance between the basal ocelli, with a middle longitudinal depression and a basal transverse furrow; the frons is anteriorly broader than in the other species, the antennae being inserted lower down, thus approaching to the condition found in *Callynthrophora*; it is clothed with long, pale-yellow, erect hairs with some black ones forming a transverse band before the ocellar triangle; ocellar tuft pale yellow. Eyes with the upper

areolets only a little broader and not really distinctly separated from the others. Face with the brush formed by long and less dense black hairs, with a few yellow ones scattered in the middle; the genae and the chin are likewise clothed with black hairs. Antennae entirely black; the first joint short, provided with long and radiating bright yellow hairs; third joint with the basal half thin and filiform, the apical half broadened to form an ovate spatula acute at tip, instead of being obtuse as in *clavicornis*. Proboscis entirely black, 2.5 mm. long; palpi elongate, black, with rare black hairs. Hind part of thorax and scutellum black, clothed with long but not dense, bright fulvous hairs; only below the root of the wings there is a small tuft of fulvous hairs directed backwards. Halteres yellowish with whitish knob; squamae small, dirty yellowish, with whitish fringe, the plumule with yellow fringe. Abdomen black, densely clothed with bright fulvous equal hairs, even on the belly. The contrast of colour between the upper and lateral parts of the thorax and head is very striking. Legs black, the tibiae sometimes with dark yellowish brown ground-colour; coxae and underside of femora with long, rather rigid, black hairs; hind tibiae shortly ciliated outwards; claws black, pulvilli dark. Wings exactly as in *hirtipes*.

CORSOMYZA RUFICORNIS, sp. nov., ♂.

A small, rather aberrant species, easily distinguished from any other on account of its red third antennal joint.

Type ♂, a single damaged specimen from the Victoria Falls (S. Rhodesia), July, 1911 (L. Péringuey).

Length of the body 6 mm.; of a wing 5.5 mm. Head black; occiput grey-dusted with scarce and short whitish hairs above in the middle. The usual vertical crest seems to be reduced to the ocellar tuft which is entirely formed by whitish hairs; eyes with the upper areolets broader, the smaller ones being confined to the lower third, and being separated by a sharply defined line; frons a little broader than the ocellar triangle, clothed with long black hairs, turning to whitish before the antennae; facial brush formed by long whitish hairs surrounded by not well-defined dark ones; beard whitish. First antennal joint short, black, with whitish hairs; third joint red, with the basal half thin and filiform, and the apical half a little broadened to form a dark spatula bilobate at end. Proboscis broken off in the type example. Thorax, scutellum and abdomen black, clothed with long but not dense whitish hairs; pleurae, breast and belly likewise whitish haired. Halteres pale yellowish, their knob blackish above; squamae very small, with rare and pale hairs.

Femora black, with yellow tip, and provided below, like the coxae, with numerous white hairs; tibiae and tarsi entirely yellow to the end, the hind tibiae with a few white hairs; claws yellow, with black tip; pulvilli yellowish. Wings whitish hyaline, with yellow veins, distinctly more elongated than usually; the venation is typical, but the anal cell is narrowly open at the hind border.

CALLYNTHROPHORA, Schiner (1867).

I refer to this genus a new species, which is different from the typical ones in having only 2 submarginal cells. But I think that the essential character of the genus, as believed by its author, is not to be found in the number of the submarginal cells, which may be 3 even in a true *Corsonomyza* like *C. anceps*; we have here a case analogous to that of *Triplusius vittatus* and *Bombylius lateralis*, which are evidently congeneric notwithstanding the difference in the number of submarginal cells. From Schiner's description it is evident that the principal distinction is to be found in the shape of the head and antennae. The frons is in both sexes much broader than in *Corsonomyza*. Besides the antennae being inserted in a much lower position, the frons appears to be much longer than the face, and is inflated above the antennae, being consequently much broader. From this fact is derived the other—that is, the antennae are inserted exactly in the centre of the facial circular brush, and not on its upper border as in *Corsonomyza*. The frons declines gradually to the face, because a part of this last is becoming part of the first, as a result of the lower insertion of the antennae; therefore in the female the facial brush is not so well formed as in the male. The first joint of the antennae is shorter than in *Corsonomyza*, and distinctly swollen, being nearly of a spheroidal shape; the third joint is strongly clavate. All the other characters, as well as the general facies, are as in *Corsonomyza*. I have not seen the typical species, but only the following new one:

CALLYNTHROPHORA MARGINIFRONS, sp. nov., ♂, ♀.

A small species, distinguished from the typical one by the yellow colour of the face and of the fore-part of the frons and of the basal joints of the antennae, and the presence of only two submarginal cells in the wings.

Type ♂ and type ♀, a single couple of specimens from Namaqualand, Port Nolloth (Cape), August (R. M. Lightfoot).

Length of the body 6-6.5 mm.; of a wing 5-5.5 mm. Body perfectly conical, the head being broader than the thorax and the

abdomen being much narrower than the thorax. Head shining black, but the anterior half or even most of the frons and the whole face are of a pale yellow colour. Occiput with a faint pale dust on sides at the borders, and with short and scarce pale hairs; vertical crest formed by whitish hairs only. Ocellar tubercle very prominent, whitish-haired. Frons of the male a little broader than the ocellar tubercle, but becoming much broader in front, being inflated and measuring in front of the antennae more than four-sixths of the breadth of the head; the middle furrow is narrow but well developed, reaching the base of the antennae; the hairs are black on the part not clothed by the facial brush and whitish on the rest; the eyes have the areolets of the upper half a little broader but not sharply separated from the lower ones. Frons of the female gently rounded, inflated, three times as broad at the vertex as that of the male, measuring $\frac{3}{4}$ of the breadth of the head; the division of the black from the yellow part is formed by a straight line placed nearly at half the distance between the vertex and the base of the antennae; the middle furrow is not distinct; it is clothed with black hairs on the black part and with whitish ones on the yellow part, but as the frons merges gradually into the face and into the cheeks, there is no distinct brush, the face being entirely yellow and very short. The face is clothed with entirely whitish hairs, like the cheeks and their sides, which are exceedingly broad and partly black haired. In the male the face is also yellow, but has a very well-developed circular brush, which is formed by white hairs and surrounded by black ones. Antennae with the first joint short and inflated, almost spheroidal, of a dark, reddish yellow colour, with long and scarce, rigid black hairs; second joint very small, perfectly globular, reddish yellow, black above; third joint entirely black, thin and filiform for more than the basal half, and subsequently dilated to an ovate spatule, which is narrowed at end. Mouth-opening proportionally small and narrow; proboscis very short, its end usually not projecting beyond the end of the antennae, and measuring only 1-1.5 mm. in length; palpi long, white-haired. Thorax, scutellum and abdomen black; in the male they are less shining, and entirely clothed with rather long but not dense, equal, pale yellowish hairs; in the female they are much more shining, with a very short, and on the abdomen very sparse, pale yellowish pubescence. Pleurae almost bare, with hairs on the mesopleura only, which are whitish in the female and partly black in the male. Halteres with a pale yellowish or whitish knob, which bears a black spot on the upper side in the male. Squamae whitish hyaline, with a yellow border and a very short pale fringe which is nearly wanting in the female. Legs

entirely black, in the male with dark hairs on the coxae and on the under side of the femora, with whitish ones in the female; hind tibiae scarcely ciliated on the outer side; claws black, with yellow base; pulvilli yellowish. Wings whitish hyaline, with yellow veins, and with the typical venation of *Corsonomyza*, but the anal cell closed at the hind border itself or rarely very briefly stalked; the axillary lobe is also distinctly broader. There is no trace of the cross-vein forming the third submarginal cell in *Callynthrophora capensis*.

GNUMYIA, gen. nov.

I have to create here this new genus for a form which unites the characters of *Corsonomyza* with those of *Callynthrophora*; the antennae and their position are more like those of the former, while the shape of head approximates more to that of the latter; there are, moreover, 3 submarginal cells on the wings; but it differs from both the genera in the linear third antennal joint, and from all the other genera of *Usinae* in having a short proboscis, which is more like that of a Muscid than that of a Bombyliid; the facial brush (in the female) is indicated only by some denser lateral hairs. Head very broad and inflated, distinctly broader than the thorax. Occiput a little concave, not bilobate above; vertex rounded, distinctly lower than the eyes; there is no distinct occipital fringe. Ocelli disposed in equilateral triangle on a broad, rounded protuberance. Frons convex, very broadened forwardly and passing gradually to the very broad and convex cheeks and to the convex face; the breadth of the frons at the level of the antennae is three times as broad as that at the vertex, and that of middle of face is more than four times such. The face is separated from the cheeks by a deep furrow, which becomes deeper below and is directed towards the eyes; there the furrow makes a bend and is directed towards the mouth, separating thus the very broad but short cheeks. The face is densely pubescent, but the hairs are not disposed to form a distinct brush. Eyes bare, proportionally narrow, much narrower than high; in profile they are not broader than the prominence of the face and of the cheeks before them. Antennae inserted much above, near the level of the upper border of the eyes; they are broadly separated at base, the distance between them being as broad as that between the 2 basal ocelli; first joint rather swollen, but of an elongate cylindrical shape; second joint globular and setose; third joint very elongate, equal throughout its whole length, almost linear, more than twice as long as the two first joints together; it ends in a short, acute point, without a distinct style. The mouth-opening is proportionally small; the proboscis is

shorter than the mouth, rather incrassate, and ends with fleshy flaps; the palpi are very thin and are a little longer than the proboscis. Thorax and scutellum with long pubescence, but without distinct bristles; metapleurae bare: no distinct plumula; squamulae with a long but not dense, hairy fringe. Abdomen with long pubescence, and with distinct bristly hairs at the hind border of the segments. Legs simple; hind tibiae with long fringe outwardly. Wings of normal shape. First longitudinal vein very long; second vein straight; cubital fork broad, with the upper branch retreating at base and united with the second longitudinal vein by a cross-vein. Thus three submarginal cells are present: first posterior cell broadly open, broader at end than on middle or at base, about of the same breadth at end as the 2nd or the 3rd posterior cell; discoidal cell about twice as broad as long, obtuse outwardly, the middle cross-vein placed a little beyond its middle; anal cell closed and shortly stalked. Auxiliary lobe broad; alula short and rounded; ambient vein complete; costa densely but shortly pilose at base.

Type: the following new species.

GNUMYIA BREVIROSTRIS, sp. nov.

A black and black-haired species of middle size, with a dark-yellowish head and pale yellowish wings.

Type ♀ a single specimen from Hex River, January 10th, 1882 (L. Péringuey).

♀. Length of the body 8 mm.; of the wing 7 mm.; of the wing-spread 16 mm. Head rather shining; the whole occiput is black and bare, being provided with a rather long, black pubescence only below; the vertex is occupied by the broad and flat ocellar protuberance, which is entirely black and clothed with long, black, erect hairs. Frons yellowish, but on each side it shows an elongate black spot, which is in contact with the eyes inwardly and is rounded outwardly; besides there is a lanceolate small black spot in the middle, with the base in contact with the ocellar spot near the front ocellus; the frons is very shortly pubescent in the middle, and has on the sides black hairs which are denser near the cheeks. Face and cheeks entirely yellow, quite unspotted: they are equally clothed with black hairs, which are shorter on the face and denser and longer near the eyes; the cheeks are yellow anteriorly, but they are merging posteriorly into the black lower part of the occiput. Antennae with the first joint yellow like the frons; 2nd joint more brownish; 3rd joint entirely black; basal hairs of the antennae black. Palpi and proboscis dirty blackish,

with short and pale pubescence. Thorax and scutellum shining black, but the humeri more narrowly so, the postalar cell broadly and the posterior border of sternopleura with part of the pteropleurae, reddish brown; they are entirely clothed with black, long hairs; the hairs below the notopleural line at the upper border of meso- and pteropleura are longer, denser, and tuft-like. Squamulae dirty whitish, with a dark border and a pale fringe; halteres dark yellowish, with white knob. Abdomen entirely shiny black, even on the venter; its long hairs are entirely black, like the long and thin bristles. Legs entirely black and black-haired, but the tibiae somewhat reddish-brown and the knees narrowly yellowish. Wings with all the veins pale yellowish and with the membrane whitish-hyaline, with a faint yellowish tinge, chiefly at base and along the fore border; at hind border they are more iridescent.

HYPERUSIA, Bezzi.

This genus was founded by me for a robust species of proportionally greater size, from Natal, in the British Museum. The species here described as new is much smaller than the type-species, but agrees with it in the low position of the antennae and in the venation, although the anal cell is open.

HYPERUSIA MINOR, sp. nov.

A small, but robust, black species, resembling the female of the European *Usia versicolor*, and very distinct on account of its yellow antennae.

Type ♂; a single specimen from Zululand (M'Fongosi), April, 1916 (W. E. Jones).

♂. Length of the body 4 mm.; of the wing 3.5 mm. Head entirely shiny black, clothed at vertex, on frons and at sides of face with rather abundant greyish or pale hairs. The frons is not at all prominent; it is flat, or even concave on the fore half, and is very broad, broadening even more forwards, being at level of antennae nearly as broad as long. The face is very short, and is distinctly reddish-yellow on sides of the middle; the mouth border is prominent, and there is a furrow between the face and the cheeks and jaws. The antennae are inserted very near the mouth border, the mouth-opening being much produced above; but in profile they are always placed near the middle of the eyes; the two basal joints are short and black, but the first is about twice as long as the very short second joint, and is clothed on the under side with rather long, whitish hairs;

the third joint is twice as long as the two first joints together, elongate, oval, obtuse at end and without style; it is yellowish, but is blackened on the apical third. Proboscis very stout, broad at base, quadrate in section, straight and directed forwards, 1.5 mm. long; it is entirely shining black. Palpi about as long as $\frac{1}{3}$ of the proboscis, thin, acute, black, with rather long greyish hairs, and with scattered golden-yellow, scaly hairs below them; the pleurae are almost bare, but with a tuft of long and dense whitish hair on upper part of the mesopleurae. Scutellum like the thorax, and destitute of bristles at hind border; squamulae whitish, with a scanty whitish fringe; halteres with whitish knob and yellowish stalk. Abdomen elongate, attenuated behind; it is shiny black, with scattered golden dust like the thorax, but almost devoid of hairs; only on the sides are some greyish ones; spines of the ovipositor reddish; venter black, but not shining, and without golden dust. Legs rather short, with coxae and femora black, tibiae and tarsi yellow; last tarsal joint blackish; they have no bristles, but only a scarce, pale pubescence; hind tibiae on outer side with a long but scanty fringe of hairs. Wings proportionately short, whitish-hyaline, immaculate, with entire pale yellowish veins. Their venation is as in *Corsomyia*; 2nd vein gently curved and broadly S-shaped; upper branch of cubital fork not retreating at base; middle cross-vein placed on the last third of the discoidal cell. First posterior cell broadened at end, but distinctly more narrow than the 2nd; the 3rd posterior cell is the narrowest of all, and the 4th is the broadest of all; anal cell rather broadly open. Ambient vein complete; axillary lobe broad, but the alula very short. Costa bare at base.

MEGAPALPUS, Macquart (1834).

I am attempting here to revive this genus, which was united by Schiner to *Corsomyza* ('Novara. Dipt.,' pp. 114 and 139). The likeness to this last genus is very great: the general shape of the body and head is the same; the structure of antennae is very like; the elongation of palpi also, and even the shape and pubescence of the legs. The wings have the same shape and neuration; only the anal cell is typically broadly open, or sometimes exceptionally closed at the wing border itself. The differences are to be found in the much greater nakedness of the body; in the absolute want of the circular facial brush; in the narrow genae; in the prominent hem at the mouth border and in the longer proboscis. In the male the eyes have equally small areolets and are much more broadly separated, the frons being

only a little narrower than that of the female. Halteres and wing veins black.

Notwithstanding Schiner's contrary opinion, *Phthiria capensis*, Wied., belongs to this genus, and may be considered the type of the gen. *Megapalpus*, as stated by Macquart himself in the "*Suites à Buffon*"; the new gen. *Dasyopalpus* founded by the same author in 1840 is based on the difference in the hairiness of the palpi—a difference which does really not exist.

MEGAPALPUS NITIDUS, Macquart (1840).

A small black species, distinct from all the species of *Corsomyza* aforementioned on account of the sparse hairiness of the body, and of the black halteres and black veins of the wings.

This species strongly recalls the female of the Mediterranean *Usia versicolor*, Fabr; but has a very different head, antennae and wings.

A couple of specimens from Namaqualand, Port Nolloth (Cape), August, 1890 (R. M. Lightfoot).

Length of the body 3·5–4 mm.; of a wing 3–3·5 mm. Head broader than the thorax, entirely shining black; occiput flat, with very short and scarce black hairs; frons almost equally broad in both sexes, flattened, with parallel sides, and having a less distinct median longitudinal furrow, equally clothed with rather long erect black hairs. Ocellar tubercle less prominent; ocelli well developed. Face short, with a prominent hem at the mouth border, clothed like the narrow genae with black hairs; beard white. Antennae entirely black, rather separated at the base; they are as described by Macquart, and seem to be carried in a peculiar way, the third joint being erect and produced almost at right angles to the first joint; this last joint is clothed with black hairs, which are longer below and in the female are partly of pale colour. Proboscis entirely black, almost as long as the body, measuring 3–4 mm. in length; palpi black, very long, with short but distinct black hairs (Macquart says that the palpi are yellow and bare). Thorax, scutellum and abdomen entirely black, rather shining, with distinct bluish glance in the male; they are clothed with scattered, erect, black hairs, rather long in the male and shorter in the female; only on the notopleural line and on the hind border of mesopleura are tufts of short, yellowish hairs; on the sides of the thorax and on the hind border of the scutellum are rather distinct and longer bristly hairs. First joint of abdomen with white pubescence in both sexes, the sides of the other segments with pale short pubescence in the female. Halteres with yellowish stalk and black knob. Squamae

white, without distinct fringe. Genitalia of the male shiny bluish black, retracted; those of the female with two broad lamellae. Legs entirely black, the femora with rare, pale and dark hairs below; hind tibiae with 4-5 long ciliae outwardly in the basal half; middle tibiae with two ciliae; claws minute, black with yellow base; pulvilli dirty yellowish. Wings hyaline, with black veins; venation as in *Corsomyza*, but the anal cell in the male is closed at the border, in the female it is narrowly open.

MEGAPALPUS FULVICEPS, sp. nov.

A very strange and robust insect, which was named by Bigot "*Amictus fulviceps*," and which may be provisionally placed in the present genus.

Type ♀, a specimen from the Cape, Van Rhynsdorp (R. M. Lightfoot), Namaqualand, Port Nolloth.

♀. Length of the body 9 mm.; breadth of the body 5 mm.; length of the wing, 8.5 mm.; wing spread 22 mm. Head very developed, and distinctly broader than the thorax. Occiput concave above, shiny black, but with a broad yellow spot extending from the neck to the upper corner of the eyes; it is clothed with short white hairs, which become longer and denser on the sides and below, merging into the dense white beard of the chin. Frons twice as broad as the eye, shiny black, but with a yellow curved band on the fore part above the antennae, in contact with the yellow face; from the ocellar tubercle two abbreviate black stripes start hindwards, reaching the yellow occipital patch. The frons has only scarce and short fuscous hairs, which are more whitish and longer on the vertical edge; above the root of the antennae there is in the middle of frons a circular depression. Eyes rather narrow in profile. Antennae inserted at the level of the upper corner of the eyes, very long (measuring 4.5 mm. in length) and horizontally porrect; they are entirely black. The first joint is cylindrical, only a little shorter than the third, with very scarce and short pale hairs; second joint very short and lenticular; third joint compressed, of an elongate oval shape, broader in the middle than at the end, obtuse at end. Face very broad and entirely yellow, shining, with only a small black, transverse spot near the root of the antennae; the mantle border is prominent in the shape of a conical protuberance separated from the broad cheeks and jaws by a deep furrow; the entire face is bare, with only a very short and thin, pale pubescence. Palpi long and thin, black, shortly pubescent; proboscis 5 mm. long, horizontal, stout, entirely black, bearing near

the base into the oral cavity long white hairs. Thorax very stout, broad and short, quadrate, shining black, finely punctate; on the back it is clothed with a very short white pubescence, which on the sides is longer and forms a narrow white border. The pleurae are clothed with longer white hairs, which form very rich tufts on the notopleural line and on the mesopleurae; metapleurae bare. Scutellum like the thorax and likewise clothed with a short and obtuse, white pubescence; mesopleurae concealed. Squamulae white, with a narrow yellowish border and a short white fringe; halteres white. Abdomen broader than the thorax, broader than long, shining black, finely punctate, clothed with short, whitish pubescence, which is denser on the 2 last segments; first and second segment on the sides with rather long white hairs; venter shining black. Legs short and stout; coxae black, with whitish pubescence; femora shining black, reddish-yellow above and at end; middle femora with a row of long black hairs on front side; tibiae and tarsi reddish, with yellowish spicules, but partly black on the middle pair; last tarsal joint deep black; claws black, with red base; pulvilli dirty yellowish. Wings broad and short, suffused with a faint yellowish tint, more intensive at base and at fore border, and fainter at the apex, which is hyaline; veins entirely reddish. Costal cell long and dilated outwardly; middle cross-vein placed near the tip of the discoidal cell; 1st, 2nd and 3rd posterior cell of about the same breadth at end, the vein between the 1st and the 2nd rather wavy; anal cell closed and shortly stalked. The venation is typical as in *Corsonyza*.

SUBFAMILY PHTHIRIINAE.

GONARTHURUS, Bezzi.

This new genus was recently founded by me for my *Dischistus cylindricus*; I include here two species described by Bigot and two new ones. The present genus is very distinct owing to its narrow and elongate, cylindrical body, devoid of strong bristles; the moustache is dense and soft; the occipital hairs are long and form a very dense crown. The eyes of the male are coalesced for a considerable distance and have the upper areolets enlarged; the frons of the female is rather narrow. The antennae are long, with the third joint linear and provided with a very thin terminal style; the proboscis is rather short, and sometimes exceedingly short and thick; the palps are long, two-jointed, with the apical joint produced outwardly and thus at

right angles with the basal one; the metapleura is bare; the legs have bristly hind femora, bristly tibiae and long pulvilli; the wings are short, destitute of a basal hook, comb, and alula. The first vein is straight and the marginal cell not dilated at end; discal cross-vein placed on the last third of the discoidal cell; first posterior cell broadly open.

In the collection are three species, to which I can add another from my own collection; they may be distinguished as follows:

- 1 (6). Proboscis very short and thick, shorter than the thorax, with broad terminal labella.
- 2 (5). Body clothed with moderately long hairs, which are of a yellow colour; halteres of male white; tibiae black.
- 3 (4). Species of larger size, at least 10 mm. long; pubescence of a paler yellow colour; ocellar tuft in both sexes and first antennal joint in the male with black hairs above; female with black hairs on the vertex.
leucophys, Bigot.
- 4 (3) Species of smaller size, not over 8 mm. in length; pubescence of bright yellow colour; ocellar tuft and first antennal joint in both sexes yellow-haired; female without black hairs on vertex.
xanthinus, sp. nov.
- 5 (2). Body clothed with exceedingly long and white hairs; halteres of the male with black knob; tibiae sometimes yellow. *cycnus*, Bigot.
- 6 (1). Proboscis thin, longer than thorax and head, with narrow terminal labella; basal joint of antennae black-haired above.
chioneus, sp. nov.

GONARTHUS LEUCOPHYS, Bigot (1892).

A species distinguished by the short and thick proboscis, the black hairs on the ocellar tubercle and on the base of the antennae in the male, the yellow pubescence and the straight, not retreating base of the upper branch of the cubital fork.

Originally described from the Cape; there is a male from Barberton, Transvaal, April, 1911 (H. Edwards).

In the present species the third antennal joint is very narrow and acute, being much narrower than the first. The hind femora have more numerous spines, 3-4 in number; the middle femora have 2 spines.

GONARTHUS XANTHINUS, sp. nov., ♂, ♀.

Very near the preceding, but at once distinguished by the smaller size, the yellow ocellar tuft, the wholly yellow-haired base of the antennae and the bright yellow colour of the pubescence of the body.

A male specimen from Kimberley (Cape) March 14th, 1912 (J. H. Power), and a female from Potchefstroom (Transvaal) (T. Ayres).

Length of body 7-8 mm. ; of wing 6-7 mm. Occipital border with very long yellow hairs which form a complete crown ; ocellar tuft yellow in both sexes, but in the male a little darker. Face very short, with entirely yellow hairs, continued over the very narrow cheeks ; beard short, yellow ; eyes of male intimately connected ; frons of the female less broad than the eye, clothed with dense golden yellow tomentum and with erect yellow hairs ; the hairs of the cheeks in the female are white. Antennae entirely black, the first joint with yellow hairs, those of the upper side very short, those of the under side very long ; third joint longer than the first two joints taken together, linear, obtuse at end, not narrower than the second at base, with a very minute style. Proboscis black, 2 mm. long ; palpi black, pale-haired. Thorax and scutellum wholly deep black, clothed with equal, dense and rather long yellow hairs, those on the back being pale shining if viewed from the front ; the hairs on the pleurae are less pale ; metapleura bare, but concealed below the mesopleural and squamae tufts ; there are no distinct bristles. Squamae dirty-whitish, with long yellow fringe ; halteres yellow, with a white knob. Abdomen of conical shape, entirely black, clothed with hairs like those of the thorax, which on the venter are shorter and rarer ; male without, female with distinct and long, black, bristly hairs at the hind borders of the segments ; male genitalia black, yellow-haired ; female genitalia with broad black lamellae, the upper one rather shining and golden-fringed at apex. Legs black, with yellowish scales, whitish hairs and black spines on femora ; middle femora with 1, hind femora with 2-3 spines on the apical half. Wings entirely hyaline, narrowly yellowish near the base ; veins yellow, darkened at end ; upper branch of the third vein a little retreating at base.

GONARTHURUS CYCNUS, Bigot (1892).

Allied to the preceding, but distinguished by the very long, white pubescence of the entire body and by the black knob of the halteres in the male sex.

The present species was briefly, but recognisably, described from the Cape. There are in the Museum Collection numerous specimens of both sexes from Stellenbosch (Cape) (L. Péringuey), Potchefstroom (Transvaal) (T. Ayres), Namaqualand, O'Okiep (Cape), October, 1890 (R. M. Lightfoot). One of these examples was labelled by Bigot as *Bombylius niveus*, Macquart—an impossible thing, however,

because in Macquart's species the discal cross-vein is situated near the base of the discoidal cell.

The length varies between 7 and 11 mm., but usually it is 8-9 mm. The third antennal joint is very broad in the male, and less distinctly so in the female; the hairs of the first antennal joint are very dense and long underneath; the ocellar tuft is black in the male and dark yellow in the female; the frons of the female is very narrow, even narrower than the eye, and on each side of the vertex there is sometimes a tuft of long yellowish hairs, but no black hairs at all. The proboscis is black, very short and exceedingly thick, with broad terminal labella. Thorax, scutellum, and abdomen entirely deep black, clothed with very long and shining whitish hairs, without bristles, even on the hind borders of the abdominal segments of the female; in this sex there is a short and dense tomentum of more yellowish colour under the long pubescence. The knob of the halteres is entirely yellow in the female, and is white with a black band above in the male. Venter with short and scarce hairs, but concealed under the very long and dense hairs of the lower sides of the tergites. Legs with dense white scales, long white hairs and black bristles; middle femora with 1-2, hind femora in the male with 2-3, and with 5-7 spines in the female: they are black, but the tibiae and the tarsi at base are often of a yellowish ground-colour below the scales. Wings very short, entirely vitreous and iridescent, with a tuft of silvery hairs near the base on the outer side; veins black, yellowish toward the base; upper branch of the cubital fork a little retreating at the base.

GONARTHUS CHIONEUS, sp. nov., ♂.

Closely allied to the preceding species, but distinct owing to the long and thin proboscis and to the basal joint of the antennae being black-haired above.

Two males in the writer's collection, from Willowmore (Cape), February, 1907 (Dr. Brauns).

Length of body 7.5-9.5 mm.; of a wing 5.5-7.5 mm. Occipital crown formed by very long, white hairs, which appear to be fairly yellowish near the base; ocellar tuft black, rather short; frontal triangle very small and deep. Antennae black, with the first joint rather black, and provided with short black hairs above and with long ones partly yellowish, partly white below; third joint longer than the two first together, linear, obtuse, as broad at the base as the second joint, with a minute terminal style. Face very short, almost bare, concealed below the long antennal hairs; the mystax is confined to the

small cheeks, which are clothed by dense hairs, dark yellowish above and white below, the latter being the more developed; beard white. Proboscis entirely black, thin, with small terminal labella, 3-4.5 mm. long; palpi black, long, the apical joint with short white hairs. Eyes intimately connected. Thorax, scutellum and abdomen deep black, the last a little shining, chiefly at the base of the segments; they are entirely clothed with dense, soft, equal, rather long white hairs which from a front view have a silky sheen, without any dark bristles, even on the abdomen; the hairs of the end of the abdomen are narrowly yellowish at the base; venter with long hairs, but it is concealed under the long hairs of the sides of the tergites. Genitalia black. Squamae white, with yellow border and long white fringe; pleurae densely clothed with grey-dust. The black band of the knob of the halteres is limited to the upper side. Legs entirely black, white-scaled, with the femora white-haired and black-spinose; middle femora with 2, hind femora with 4-6 spines; claws black, with a reddish base; pulvilli dirty yellow. Wings hyaline, iridescent, a little whitish on the basal half and along the fore border, with yellow veins; base of the costa with a short tuft of silvery hairs; upper branch of the cubital fork a little retreating at base.

GONARTHURUS CYLINDRICUS, Bezzi (1906).

Easily distinguished from *chioneus*, Bezzi, on account of the black abdominal bristles and of the white knob of the halteres.

Of this widely spread species there is a female specimen from South Rhodesia, Gwelo, April, 1917 (Miss Skaife).

CROCIDIUM, Loew (1860).

This genus is not represented in the collection, but I have received a specimen of the typical species from Willowmore (Cape), and have seen a new species with unspotted wings from the same locality. Its nearest ally is *Gonarthurus*, which, however, differs in the venation being that of a *Dischistus* with a broad cubital fork and an open anal cell.

To Loew's description of the genus may be added: Occiput flat, not inflated, briefly haired along the border. Ocelli disposed in an equilateral triangle. Eyes of the male united for a long distance, with the upper areolets enlarged and sharply separated from the smaller ones. Antennae inserted at the centre between the eyes, approximate at the base, with the third joint twice as long as the first. Face of the male with long moustache. Thorax, scutellum and abdomen without distinct

bristles. Legs without spines on femora, but with minute spicules on tibiae; pulvilli long. Squamae briefly fringed. Wings with a broad and prominent axillary lobe; alula of median size, rounded.

CROCIDIUM POECILOPTERUM, Loew (1860).

Dipt.-Faun. Sudafrikas, p. 195, pl. 11, f. 8.

A curious fly intermediate between *Dischistus* and *Phthiria*, and at once recognisable on account of the peculiar wing pattern.

A male specimen in my collection, from the Cape, Willowmore, January 15th, 1907 (Dr. Brauns). Another male from Ceres (Cape), Matroosberg, 3500 ft. (R. M. Lightfoot), distinguished on account of its peculiarly spotted wings.

The male, hitherto not described, is very like the female. The eyes are united in a line as long as the frontal triangle; their enlarged upper facets occupy two thirds of the eye and are of a reddish brown colour, while the lower small faceted part is lighter; the line of division between them is a very conspicuous one. The facial hairs are longer than the 2 basal antennal joints. Frontal triangle white-dusted, as broad as the ocellar one. Pubescence of body and legs distinctly longer than in the female. Genitalia spheroidal, bilobate, greatly developed, grey-tomentose and white-haired.

CROCIDIUM NIGRIFACIES, sp. nov.

Closely allied to *immaculatus*, Bezzi, on account of its unspotted wings, but at once distinguishable by the completely shiny black, more convex face, and by the black tibiae.

Type ♂, a single specimen from Bulawayo, September, 1911 (H. C. Peard).

♂. Length of the body 5.5 mm.; of the wing 5.5 mm.; of the proboscis 2.5 mm. Head black, but clothed with dense grey dust on frontal triangle and on cheeks, only the rounded and prominent lower part of face being shining black. Occipital border with greyish hairs; cheeks and lower part of occiput with long and soft white hairs. Ocellar tubercle prominent, with erect whitish hairs; eyes rounded, of great size, touching for a space a little longer than the ocellar triangle. Antennae entirely black; first joint about three times as long as the very short second joint; third joint as long as the two first joints together, narrow, elongate-oval, with a distinct terminal style. Proboscis black, gently curved downwards; palpi long and thin, acute, pilose at the under side. Thorax entirely black, opaque, but clothed

with dense grey dust; on the back are 4 blackish, longitudinal, dull stripes, 2 of which on the middle more narrow, approximate and abbreviate behind, and 2 broader and abbreviate in front, one on each side. The hairs on back and pleurae are long, soft, whitish. Scutellum like the back, with no distinct bristles. Squamulae whitish-pellucid, with white marginal hairs; halteres yellowish, with the knob infuscated above. Abdomen like the thorax and likewise clothed with long whitish hairs, devoid of bristles; genitalia black, grey dusted. Legs quite black, the knees only being narrowly yellow; fore femora with long white hairs; hind tibiae with short, but distinct black spicules. Wings whitish hyaline, quite unspotted, only the subcostal cell and the stigma being dark yellowish; veins yellowish on the basal half, black on the rest; cubital fork narrow and elongate, with the upper branch gently curved at base and originating at an acute angle; middle cross-vein placed beyond the middle of the obtuse discoidal cell, with a faint greyish shading in the middle; first posterior cell broadly open, only a little narrower than the 2nd following ones, which are of equal width at end; anal cell closed and shortly stalked.

PSEUDEMPIS, gen. nov.

Allied to *Apatomyza*; and in the same way that this last genus recalls a *Therevid*, thus the present one strongly resembles an *Empis*, hence the name. It is founded on *Amictus heteropterus* of Wiedemann, a species which is very different from *Thlipsomyza heteroptera* of Macquart, which is now placed in *Amictus*; on this last species Rondani in 1863 has founded its genus *Thlypsogaster*, which has nothing to do with *Amictus heteropterus*, Wied., or as mistaken by Williston in *Psyche*, 1899.

The characters of the new genus are as follows: Head rounded, small, narrower than the thorax; occiput developed, inflated, without fringe at the eye's border. Ocelli of greater size, placed on a rounded prominent tubercle and disposed in an equilateral triangle. Eyes bare, not indented behind, comparatively small, with equally small areolets in both sexes; in the male they are separated, but the frons between them is narrower than the ocellar tubercle; in the female the frons is broadening, measuring at vertex one-fifth, and before the antennae one-third, of the breadth of head. Face short, perpendicular, not prominent, bare. Antennae inserted above the middle of the eyes, and horizontally correct; first joint long, rather thickened, haired; third joint much smaller, linear, as long as or a little shorter than the first two joints together, acute at end, with a thick terminal style.

Mouth opening rather small, horizontal or nearly so; proboscis twice as long as the head; palpi very long and thin, pointed, briefly pilose. Thorax and scutellum without bristles, with only a few thin bristly hairs; pleurae almost bare; no metapleural tuft. Squamae small, with short and thin marginal hairs. Abdomen elongate, conical, with bristles at the hind border of the segments; male genitalia exerted, appendiculate below; female genitalia very peculiar. Legs long, almost bare, without spines or spicules; tarsi distinctly thickened; pulvilli and claws well developed. Wings long and broad; second longitudinal vein straight; cubital fork long and narrow; discal cross-vein placed after the middle of the discoidal cell; only three posterior cells present, the first being broadened at end, anal cell closed and provided with a rather long stalk. Ambient vein complete; axillary lobe broad; alula small, rounded, ciliated. The stumps of veins on the outer border of the discoidal cell, figured by both Wiedemann and Macquart, are the rudiment of the vein dividing the second from the third posterior cell—a vein which in the present species is wanting, the two cells being fused into one.

The new genus *Pseudempis* is based on the same type-species on which Bigot has founded his undescribed genus *Pseudoamictus*. I think that the *Amictus heteropterus* of Wiedemann is very different from that interpreted by Macquart and accepted by me; this last one has only 3, while the former has 4 posterior cells. Bigot's species is evidently the same as that of Macquart.

Type: *Pseudempis heteroptera*.

PSEUDEMPIS HETEROPTERA, Wiedemann (1821).

An elongate species, with wholly infuscated wings, strongly recalling the European *Empis tessellata*.

Originally described from the Cape, there is in the collection a single couple—the male from Cape Town (L. Péringuey) and the female from Namaqualand, O'Okiep (Cape), September, 1890 (R. M. Lightfoot).

Length of body 10–10.5 mm.; of a wing 11.5–12 mm.; of the wing expanse 24–26 mm. To Wiedemann's description may be added: The hairs of the first antennal joint are of a very dark-yellowish colour, or even blackish, chiefly in the male; the moustache is reduced to a tuft of hairs on each side, placed on the lower part of the cheeks, yellow in the male and white in the female like the beard and the hairs of the lower part of the occiput. The antennae are black, but the first joint is grey-dusted; proboscis black, 3 mm.

long; palpi black, with yellowish hairs. The thoracic pattern is very striking; the hairs and the pubescence are in the male yellower and longer, in the female whiter; but on the sides, on the posterior half and on the scutellum there are some scattered blackish hairs. Squamae dirty yellowish, with pale hairs; halteres yellow, with the knob black-spotted below. Tomentum of the abdomen golden-yellow in the male and yellowish-grey in the female; the venter is grey, with paler hind borders of the segments. Male genitalia yellowish-red, the inferior appendices bearing in the inner part a strong black hook; female genitalia yellowish, the last abdominal segment being open and bearing below a horn-like process; the ovipositor is tubular, with the basal joint much greater. Legs with the coxae blackish-grey, with yellow end; in the female the front femora are in the greater part black with yellow end, and yellow on the inner side; the femora are whitish tomentose, and have very scarce and short whitish hairs below; the greater part of the tarsi is black, chiefly in the female, in which they are much thickened; claws black; pulvilli dark. Wings with black veins.

PHTHIRIA, Meig.

Illiger's Mag. f. Ins., ii, p. 44, 1803.

This genus is represented in South Africa by some characteristic species, three of which are represented in the collection.

The species may be distinguished as follows:

- | | | | |
|---|------|---|----------------------------|
| 1 | (2). | Body black and yellow; legs entirely reddish | <i>laeta</i> , sp. nov. |
| 2 | (1). | Body and legs entirely black. | |
| 3 | (4). | Third antennal joint rather short and less gibbous, pubescence of the body short; wings greyish hyaline | <i>pubescens</i> , Bezz. |
| 4 | (3). | Third antennal joint longer and very gibbous above; pubescence long; wings whitish hyaline | <i>lanigera</i> , sp. nov. |

PHTHIRIA LAETA, sp. nov.

A yellow and black species near *Phthiria nitens*, Bezzi, from Abyssinia, but distinguished by the quite opaque abdomen, and by the different thoracic and abdominal patterns.

Type ♀ from the Transvaal, Florida, December, 1918 (R. W. E. Tucker).

♀. Length of body 5 mm.; of proboscis 2.5 mm.; of wing 5 mm. Head reddish, quite opaque; occiput broadly black in the middle;

frons with a longitudinal, black, median stripe, which is angularly dilated in front of the ocelli and forms a transverse band above the root of the antennae.

Antennae quite black, with the third long joint, about linear, ciliated above, with very short terminal style at its upper angle; peristome and chin yellowish, with long and soft white hairs. Palps and proboscis quite black. Thorax blackish and opaque on the back, with a fine dark grey tomentum and with whitish hairs; the humeri, a narrow stripe above the notopleural line, a broader stripe above the root of the wings and the postalar calluses yellow. The pleurae are yellow and opaque, with black spots on the mesopleura and on the breast; the hairs are long and whitish. Scutellum yellow, with a very narrow basal black stripe, and with a broader black apical border, which is, however, not visible from above. Post-scutellum and meso-phragm black; halteres and squamulae whitish.

Abdomen rather swollen and convex, quite opaque, clothed with whitish hairs; each segment is of a deep black colour, with a proportionally broad, equal and complete yellow stripe at the hind border; the second segment has the black part twice as broad as that of the following segments; venter with the black and yellow parts of about the same width, and with whitish hairs. Legs reddish, with pale yellow coxae, infuscated tibiae, and blackish tarsi; anterior femora with a black longitudinal stripe on the outer side; trochanters blackish; hairs whitish. Wings greyish hyaline, with yellowish stigmata; veins black, with yellowish base; discal cross-vein placed at about the middle of the discoidal cell; cubital fork about three times as long as broad at end; anal cell briefly stalked.

PHTHIRIA LANIGERA, sp. nov.

A small, entirely dull black species with whitish wings, entirely clothed with very long, soft and dense whitish hairs.

Type ♂, from Cape Town (K. H. Barnard); ♀ (rubbed) from Hottentots Holland Mtns., 4000 ft., Cape.

♂. Length of the body 4.5 mm.; of the wing 4.5 mm. Occiput, frons and face clothed everywhere with long, whitish hairs. Eyes touching for a length a little longer than the black, prominent ocellar triangle which bears only scarce and darkish hairs. The frons above the antennae is not triangular but transverse, very broad laterally, merging gradually into the cheeks; it is very prominent in profile like the cheeks; genae very narrow, linear. Antennae entirely black; first joint twice as long as the second, with white hairs, while the latter is clothed above with short, dark hairs; third joint more elongate than in

the allied species, being $1\frac{1}{2}$ times as long as the two first joints together ; it is very gibbose at its upper border and shows there 2-3 bristly hairs ; at the end it is almost bifurcated, having above a thick and proportionally long style, and below a point with a tuft of hairs. Proboscis thin, black, gently curved downwards, 2.2 mm. long ; palpi very thin and long, black, with scattered short hairs below. Thorax and scutellum deep black, dull, everywhere clothed with long, soft, white hairs, without distinct bristles ; the pleuræ are hairy only on meso- and pteropleuræ. Squamulæ quite white, with scarce and short marginal hairs of the same colour ; halteres pale yellowish. Abdomen of conical shape, coloured and clothed like the thorax ; venter more grey dusted ; genitalia with the lamellæ reddish at the hind border. Legs entirely black, with yellowish knees ; the 4 front tibiae are clothed with a dense, scaly, greyish dust ; all the femora with long whitish hairs ; only the middle tibiae with some very short spicules at the hind side. Wings whitish hyaline, with yellowish stigma ; veins black, with yellowish base. Second longitudinal vein straight ; cubital fork proportionally short and widely open at end ; middle cross-vein placed near the last third of the discoidal cell, which is of greater size and broadly obtuse at end ; first posterior cell broadly open, broader than the 3rd, but less broad than the 2nd ; terminal stalk of anal cell rather long.

The female is like the male ; the broad frons is black, convex and somewhat shiny above the antennæ.

PHTHIRIA PUBESCENS, Bezzi.

Closely allied to the preceding species, but distinct by the shorter and yellowish pubescence, by the shorter and less gibbose third antennal joint which has a much shorter and thin terminal style ; besides, the wings are not whitish. The cubital fork is much longer ; the middle cross-vein is placed near the middle of the discoidal cell, and the 3rd posterior cell is more narrowed at end.

Described by me from Willowmore, Cape Colony, in my paper on the Bombyliidae of the Museum of Budapest, there is a denuded female specimen from the Transvaal, Junction Crocodile and Marico Rivers, February, 1918 (R. Tucker).

GERON, Meigen.

Even this genus seems to be very numerous in South Africa, being represented in the collection by no less than 5 species. It is interesting

to note that besides the widely spread *G. hybridus*, all the other species belong to the group in which the cubital fork is long and narrow; this group seems therefore to be characteristic of the South African fauna. The species may be distinguished as follows:

- 1 (2). Wings proportionally short, with the cubital fork short and broad, the second submarginal cell being at end about as broad as its own length *hybridus*, Meig.
- 2 (1). Wings more elongate, with the cubital fork long and narrow, the second marginal cell being at least twice as long as broad at end.
- 3 (8). Antennae entirely black; coxae black; halteres with black knob, at least above in the male; abdomen quite black.
- 4 (7). First antennal joint distinctly thickened and clothed with dense and long hairs; cheeks clothed with very long and dense hairs.
- 5 (6). Wings hyaline, eyes of male touching in a long line, the frontal triangle being small, triangular, grey dusted *barbatus*, Bezzi.
- 6 (5). Wings strongly infuscated; eyes touching for a short line, the frontal triangle being broad and deep black *luctuosus*, sp. nov.
- 7 (4). First antennal joint very thin and scarcely haired; cheeks not barbate *leptocerus*, sp. nov.
- 8 (3). Basal joints of antennae, coxae and abdomen yellow; knob of halteres entirely yellowish *dichromus*, Big.

GERON HYBRIDUS, Meigen (1804).

This Mediterranean species is not rare in South Africa; S. Rhodesia, Salisbury, May, 1917 (R. W. E. Tucker); Cape Colony, O'Okiep (L. Péringuey), Transvaal, Barberton, December, 1916 (H. Edwards).

GERON BARBATUS, Bezzi.

Very distinct by the barbate jowls and by the hyaline wings. Described from the Cape in my work on the Bombyliidae of the British Museum; there are specimens from Cape Colony, O'Okiep and Kuysna, October, 1916 (L. Péringuey).

GERON LUCTUOSUS, sp. nov.

Closely allied to the preceding species, but at once distinguished on account of its strongly infuscated wings.

Type ♂ and type ♀ from Basutoland, Maseru (Mrs. Dieterlen).

♂. ♀. Length of the body 5-6 mm.; of the wing 5-6 mm.; of the wing spread 12-14 mm. Head black, with a dark grey dust; occipital border above and vertex with long, erect, black hairs. Eyes of male touching for a line as long as the ocellar triangle, while in *barbatus* this line is twice as long and more; they are narrowed above, the head in profile presenting the characteristic outline of the genus; eyes of female broadly separate. Frons grey dusted, broadening

forwards, being near the antennae more than twice as broad as at vertex. Face clothed with a dense grey dust and distinctly whitish below, like the mouth borders; it is bare in the middle, but at sides below are long and dense black hairs which are directed forwards and in contact with the whitish hairs of the genae, thus forming the characteristic beard; lower part of the occiput likewise white-haired. Antennae entirely black, but in the case of the types the 3rd joint is wanting; 1st joint long, distinctly thickened, and clothed with very long and dense black hairs which are more dense, more rigid and directed forwardly on the underside; 2nd joint short and globular; in the female the first joint is less thickened and less hairy than in the male. Proboscis black, 1.5-1.8 mm. long; palpi very thin and long, one-jointed, almost bare. Thorax and scutellum entirely deep black, opaque; in the middle of the back there is in front a grey longitudinal stripe, much broader than that of *barbatus*; the back is clothed with long, erect, black hairs, but in front and on sides with pale yellowish ones, and under the hairs there is a short, golden-yellowish scattered dust; pleurae with the pale hairs more numerous, but devoid of golden dust; no distinct bristles. Squamulae whitish, with black border and with long white hairs; halteres yellowish, with the knob black above in the male, but entirely whitish in the female. Abdomen of elongate conical shape, coloured and clothed like the back of mesonotum, but with more pale hairs at base and on sides; the golden dust is, moreover, very abundant in the male; venter grey, pale-haired; male genitalia with shiny black lamellae. Legs with black coxae, femora and tarsi; tibiae and base of praetarsi dark reddish; femora with yellowish scales and pale hairs; spicules of tibiae very small. Wings with the veins entirely black to the base; they are strongly infuscated, chiefly at base and at fore border, and moreover along the veins. Cubital fork $2\frac{1}{2}$ times as long as broad at end; middle cross-vein placed near the middle of the upper border of the discoidal cell; apical cross-vein of the discoidal cell very sinuous and very oblique; apical stalk of the anal cell rather short. The greyish prae-discoidal spot is very striking, passing into the blackish 2nd basal cell. The base of the upper branch of the 3rd longitudinal vein is nearly above the upper end of the apical cross-vein of the discoidal cell, while in *barbatus* it is beyond, and in *hybridus* very much beyond.

GERON LEPTOCERUS, sp. nov.

Nearly allied to the two preceding species, but distinct by the less barbate genae and by the very different antennae.

Type ♂, a single specimen from Transvaal, Barberton, December, 1916 (H. Edwards); a damaged male specimen from Basutoland, Likhoele (Dieferlen) seems also to belong here, but has the knob of halteres entirely whitish above.

♂. Length of body 6 mm.; of wing 6 mm.; of wing spread 13 mm. Head black; eyes in profile much narrowed above and touching for a very long line, even longer than in *barbatus*; the hairs of occipital border and of vertex are scarce, short, darkish; ocellar tubercle black and very small; frontal triangle very small and grey-dusted. Face very narrow, a little prominent, clothed with dense, whitish tomentum, quite bare even on the sides; the genae with scarce, white hairs which are directed forwards; lower part of the occiput with long white hairs. Antennae entirely black; first joint long and thin, not broader than the third, with scarce, short, darkish hairs; second joint globular, third joint linear, gradually tapering into a long point; it is twice as long as the first. Proboscis black, 1.5 mm. long; palpi black. Thorax and scutellum dull black, the former more gibbose than in the two preceding species; the hairs are whitish, and the short dust below them is whitish, not golden; no distinct bristles. Squamulae whitish, with yellowish border and with white marginal hairs; halteres yellowish, with the knob black above. Abdomen black, narrowly yellowish at base of venter, and clothed like the thorax; genitalia entirely reddish. Legs in the greatest part reddish, only the four front femora being more or less blackened; the coxae are reddish on the apical half; hairs and dust whitish. Wings greyish-hyaline, iridescent, with pale yellowish stigma; veins dark, with yellowish base. Cubital fork twice as long as broad, obtuse at base, with the upper branch rounded at base, and originating much beyond the upper end of the apical cross-vein of the discoidal cell; middle cross-vein beyond the middle of the rather elongate discoidal cell, the terminal vein of which is S-shaped but not much oblique. Stalk of anal cell moderately long.

GERON DICHROMUS, Bigot (1892).

Very distinct from all the other known South African species of the genus on account of its prevalent yellowish colour.

Described with a query from South Africa, I think that a single male specimen from Aus, S. West Protectorate, 1916 (Dr. Knobel), may be referred to it, even if it has the wings quite hyaline. I give a description of this specimen.

♂. Length of body 6 mm.; of wing 6 mm.; of proboscis, 2.5 mm. Head black; occiput with scarce and very short dark hairs above like

the vertex; eyes of typical form, but not much narrowed above, touching for a space longer than the ocellar tubercle; frontal triangle much narrower, longer than broad, of a dark grey colour; face narrow, not prominent, quite bare, even the genae being furnished with very scarce, whitish hairs like those of the lower part of head. Antennae long and thin; first joint thin, very scarcely pilose, entirely reddish-yellow; second joint globular, reddish-yellow; third joint elongate, linear, gradually tapering to a point, entirely black. Proboscis black. Thorax and scutellum entirely black, but as it seems, they are entirely clothed with dark grey dust and with whitish hairs. Squamulae and halteres dirty whitish, the latter with an entirely yellowish knob. Abdomen with the sides and the venter entirely reddish, but the middle of the back black, grey-dusted, with the hind border of the segments reddish; it seems to be dusted and hairy like the back of mesonotum; end of abdomen and genitalia entirely reddish. Legs and coxae entirely yellowish, only the last 4 tarsal joints being black; they are clothed with whitish scales on femora, and with scarce whitish hairs. Wings quite hyaline, iridescent, with a pale yellowish stigma; the veins are yellowish at base, dark in middle and at end, and show no trace of fuscous margination. Cubital fork $2\frac{1}{2}$ times as long as broad at end, obtuse at base, its upper branch originating at a right angle a little beyond the upper end of the apical cross-vein of the discoidal cell, and rounded at base; middle cross-vein placed beyond the middle of the discoidal cell; discoidal cell long and narrow, its terminal vein deeply S-shaped but not much oblique; apical stalk of the anal cell short.

APOLYSIS, Loew (1860).

A very distinct genus, well described and figured by Loew in his great work.

APOLYSIS HUMILIS, Loew (1860).

A very small fly, at once distinguished by its generic characters. Originally described from Caffraria and the Cape. There are in the collection some specimens from Cape Town (L. Péringuey).

SUBFAMILY SYSTROPINAE.

SYSTROPUS, Wiedemann.

This important genus is represented by 3 species, one of which is described here as new. There are rather numerous South African species described; but some confusion has arisen between them, chiefly

about the interpretation of the *S. macilentus* of Wiedemann. This species is indeed figured by its author as having only 2 marginal cells, while the type at Berlin is said to have 3 of these cells; it seems that Macquart, Loew and Schiner have all comprised different species under the same name. I give here the following table of the known South African species, to clear up the position of the new species, and considering all the species as different, according to the characters given by the authors:

- 1 (10). Three submarginal cells present.
- 2 (9). The cross-vein forming the third submarginal cell unites the upper branch of the cubital fork with the second longitudinal vein.
- 3 (4). Eyes of the female narrowly separated; wings broadly yellow at base and at fore border *marshalli*, Bezzi.
- 4 (3). Eyes of the female touching as usual; wings not yellow.
- 5 (8). Front coxae yellow, and moreover there is a yellow stripe above them on the prothorax; first posterior cell distinctly narrowed at end.
- 6 (7). Abdominal stalk black above; wings rather infuscated.
leptogaster, Loew.
- 7 (6). Abdominal stalk entirely reddish-brown; wings more clear.
clavatus, Karsch.
- 8 (5). Front coxae red; no yellow prothoracical stripe; first posterior cell not at all narrowed at end *sanguineus*, sp. nov.
- 9 (2). The above-named cross-vein is placed before the cubital fork, uniting its stalk with the second longitudinal vein.
macilentus, Schin. (nec Wied.).
- 10 (1). Two submarginal cells only present.
- 11 (14). Eyes narrowly separated, or only approaching above near the ocelli.
- 12 (13). Wings wholly infuscated *macilentus*, Wied.
- 13 (12). Wings with a sharply defined dark fore border *crudelis*, Westw.
- 14 (11). Eyes touching for a long line.
- 15 (16). No yellow spot above the front coxae.
miobrochus, Speis., *macilentus*, Macq. (nec Wied.).
- 16 (15). A yellow spot above the front coxae *snowi*, Ad.

SYSTROPUS LEPTOGASTER, Loew (1860).

A typical male specimen from Durban, April, 1913 (W. Haygarth).

SYSTROPUS SANGUINEUS, sp. nov.

A middle-sized species of *Annophilus* facies, distinguished by the prevailing red colour of body and legs.

Type ♂ from Stellenbosch, November, 1887 (L. Péringuey), and an additional specimen of same sex from O'Okiep. I think that the present species may be the *macilentus*-type of Berlin, which is described by Karsch and by Speiser, in spite of Wiedemann's figure, as having 3 submarginal cells.

♂. Length of the body 14–15 mm.; of the wing 6·8–7 mm.; of the wing spread 15·5–17 mm. Occiput bare, dull black, with a faint, dark grey dust near the border; the very small, less prominent, bare ocellar tubercle is red. Eyes united for a space about as long as the frontal triangle; the latter narrow and very acute above, bare, red, with a tuft of short dark hairs in the middle; mouth sides silvery, shining, red on terminal and pale yellowish on basal half and on fore border of chin, which is black with scattered darkish hairs like the lower part of the occiput. Antennae with the first joint as long as the two following joints together, red, with short blackish hairs; second joint black, one-fourth as long as the first, third joint black, three times as long as the second, narrowly oval and flattened. Proboscis black. Thorax deeply punctulate on the back and therefore rather dull; it is black in centre, red on sides and in front of the scutellum; the black of centre runs in front as a narrow point to the junction of head. Pleurae red, with a broad black patch on mesopleurae, continued as a stripe in front below the humeri; the metasternum is broadly black behind, and is clothed with silvery, shiny pubescence; the back of mesonotum has a short, pale yellowish pubescence, like the mesopleurae. Squamulae brown, with scarce dark hairs at border; halteres with dark yellowish stalk, and with the knob pale yellowish below, black above. Scutellum entirely black, like the mesophragma; lateral callosities yellow. Abdomen with a long cylindrical stalk formed by the hind half of the first segment, and by the whole of the second, of the third and of the fourth segment, the terminal club being thus formed by three segments only; first segment with the broad basal half black, punctulate and pubescent like the back of mesonotum, but with a red transverse stripe at the extreme base; the rest of the first segment as well as the whole of the abdominal stalk to the end of the fourth segment are entirely red above and below; the fifth, sixth and seventh segments are black, rather shiny, but the fifth is broadly red on the sides below in front. Genitalia red above, black below, with the prominent, spine-like lamellae black. Legs and coxae entirely red, but the front coxae are bristly black on the front side; the 4 terminal joints of the tarsi are blackened; hind legs with the tibiae black on the thickened terminal part, and with the tarsi entirely black; spines of hind tibiae 2:5:2. Wings greyish-hyaline with two distinct yellowish longitudinal stripes, one along the upper part of the first basal, the base of the marginal and almost the whole of the first submarginal cell except at its end; the second along the base of the second basal and the upper part of the anal cell; subcostal cell and stigma dark yellowish. Upper branch of the cubital fork originating

at a right angle, afterwards bent at right angle and there with the cross-vein uniting it to the second longitudinal vein; the rest is strongly S-shaped. Middle cross-vein on the middle of the discoidal cell; first posterior cell as broad at end as at base; second posterior cell in the shape of a regular rhomb; discoidal cell small and acute, its terminal cross-vein being S-shaped and oblique; stalk of the anal cell long.

SYSTROPUS SNOWI, Adams (1905).

A male example from Zululand, M'Fongosi, May, 1916 (W. E. Jones).

An example seen and named by Adams from Salisbury (June, 1911), S. Rhodesia, is in the collection.

SUBFAMILY TOXOPHORINAE.

TOXOPHORA, Meig.

Illig. Mag. f. Insect., ii, p. 270, 1803.

The species may be distinguished as follows:

1. (2) Wings devoid of a distinct fuscous pattern, only with a faint yellowish tint on the fore half *maculata*.
2. (1) Wings more or less infuscated, sometimes with the fore half black, and usually with dark spotted cross-veins.
3. (6) Wings faintly infuscated, with very striking dark spotted cross-veins.
4. (5) Cross-veins broadly infuscated in the shape of rounded spots of greater size *punctipennis*, Bezz.
5. (4) Cross-vein not so much spotted *diploptera*, Speis.
6. (3) Wings with the fore half blackish, the cross-veins being thus included in the general suffusion *caeruleiventris*, Karsch.

TOXOPHORA MACULATA, Rossi (1790).

A male from Van Wyk's Vlei, Cape Colony, 1875, is the first authentic specimen which I have seen from Africa of this Mediterranean species.

had been already recorded from the Cape by Loew.

TOXOPHORA PUNCTIPENNIS, Bezzi.

Closely allied to the preceding species, but distinct by the absence of white scales on the outer side of the antennae, and chiefly by the three rounded, blackish spots on the cross-veins.

Described by me from Natal in my work on the Bombyliidae of the British Museum. There is a specimen from M'Fongosi, Zululand, May, 1916 (W. E. Jones).

TOXOPHORA DIPLOPTERA, Speiser (1910).

A species very like *T. maculata*, from which it is distinguished by the bluish-scaled body, and by the infuscated and dark spotted wings.

Originally described from Usambara, but widely distributed in South Africa. I believe that Loew mistook the present species for *maculata*. Damaraland, Grootfontein, December, 1918 (R. M. Lightfoot); Bulawayo, S. Rhodesia, September 3rd, 1913; M'Fongosi, Zululand (W. E. Jones). The female only has white scales, while in the male those on the middle abdominal stripe are yellow, as also those at the end of the side stripes.

TOXOPHORA CAERULEIVENTRIS, Karsch (1887).

A beautiful species, at once distinguished by the blue and white striped abdomen, and by the blackish fore border of the wings.

Originally described from Delagoa Bay, there is a male from Bulawayo, S. Rhodesia, February 11th, 1912. The spines of the legs in the male are typical, but the middle femora have no spines.

SUBFAMILY CYLLENINAE.

NOMALONIA, Rondani (1863).

The present genus was founded by Rondani on *Cyllenina afra* Macquart, non Wiedemann; and it is very fortunate that the collection contains the two insects of Macquart, which are very different from that of Wiedemann; we are therefore able to clear up the great confusion in Dr. Kertész's Catalogue, pp. 69, 70.

The genus is evidently connected with *Cyllenina*, with which it agrees apparently in the venation, having, however, a long praefurca; but it is distinguished by the broad body, which is devoid of long bristles on the abdomen, by the bare face, the very different shape of the antennae, and the long proboscis. In these characters it agrees with *Henica*, from which it is separated here only as a tribute to the memory of Rondani.

The principal features of the genus are: Three well-developed ocelli disposed in an equilateral triangle. Frons of the male narrowed at the vertex, but very broad on the fore part; that of the female

broad. Face short, bare; genae with a very deep furrow, as in *Cyllenina*; occiput less developed than in this genus, but likewise furrowed above. Antennae inserted at the level of the centre of eyes, approximate at base; first joint globular, bare, as long as the second; third joint very elongated and bare at end. Proboscis twice as long as the head; palpi well developed. Thorax and scutellum with bristles on the sides and at the hind border; metapleurae bare, squamae rudimentary. Abdomen broad, destitute of long bristles; male genitalia much developed and prominent. Legs with spinose femora and spinose tibiae; pulvilli rudimentary, while in *Cyllenina* they are well developed. Wings with rudimentary alula; first longitudinal vein scaled at the base like the costa; second vein curved at end, but not recurrent; a single marginal and 3 submarginal cells; discal cross-vein placed on the last fourth of the discoidal cell; 4 posterior cells all open, but the first being at the end and half as broad as the second; discoidal cell obtuse outwardly, its terminal vein being straight and a little longer than the distal cross-vein; anal cell open, but narrowed at the end; ambient vein entire. The second longitudinal vein springs from the third at a right angle and has often the stump of a vein; the praefurca is very long.

NOMALONIA AFRA, Macquart (1840).

A robust species of proportionally great size, easily recognisable by the fenestrate wings with a single marginal cell.

Macquart has described the male from the Cape, believing wrongly that he had before him *Henica longirostris* = *Cyllenina afra*, Wied. There is in the collection a pair from Namaqualand, Springbok (Cape) November, 1890 (R. M. Lightfoot). To Macquart's description must be added: Length of body 11-13 mm.; of a wing 11-12 mm.; of the wing spread 26-30 mm. Occiput red, with a broad yellow border near the eyes, which becomes broader below; this border is margined with a black stripe on the upper end, and more broadly in the female; it is closed with dense but short white hairs, the eyes' border, however, being bare; it is deeply excavated above in the middle, forming a deep furrow, from which springs the ocellar tubercle. Ocellar tubercle ovate, greatly developed and very prominent, black on the fore-half and reddish behind, black-haired in front. Eyes purplish-black, proportionately small, with equal areolets in both sexes. In the male the frons at the narrowest point is about as broad as the distance between the 2 basal ocelli; in the female it is about $\frac{1}{3}$ of the head-breadth; the frons becomes afterwards very broad, being equally

broad in both sexes and measuring about $\frac{1}{3}$ of the head; at a level with the antennae; it is very convex, and densely clothed with white or whitish thick hairs, with some black ones in the basal half, more numerous in the female; the colour of the frons is a pale yellow like that of the face and of the cheeks, with a faint white dust. The face and the cheeks are bare and rather shining; a deep furrow divides the prominent mouth-border from the reddish genæ, which are clothed beneath with short yellowish hairs, like the chin. Antennae inserted in a depression between the arched frons and the prominent face; first joint short, globose, bare, pale yellow; second joint shorter and smaller, reddish; third reddish, with the styliform terminal part black, in the female entirely black, three times as long as the first two together, linear, gradually tapering to a styliform point. Proboscis 3.5 mm. long, entirely black; acute; palpi thick, straight, black, not prominent but long, clothed with yellowish hairs. The praesutural, supra-alar and postalar bristles are long and numerous; there is besides a very dense tuft of short bristles on the upper border of the mesopleura, just below the notopleural line; scutellum with 6-8 pairs of strong marginal bristles; all the above-named bristles are black in colour. Pleurae entirely reddish, grey-dusted, with scarce scaly tomentum on mesopleura and sternopleura, yellowish or whitish in colour like that of the back. The small squamae are whitish, with short, whitish fringe. Abdomen broadly conical in the male, obtuse and more flattened in the female; its ground-colour is red, but each segment has a broad basal black band in the middle; in well-preserved specimens the whole abdomen is clothed by dense, scaly tomentum, which is white on the venter, sides and end, and much darker-yellowish above and at the base; on the sides and at the end there are short black bristles. The male genitalia are very long and prominent, red, black and pale-pubescent, and surrounded at the base with black bristles; female genitalia with dense and long anal tuft of golden-yellow hairs. Legs reddish, irregularly darkened and blackened, pale tomentose; they have numerous and strong black bristles on all the coxae; the femora underneath bear two rows of bristles, shorter and less numerous on the front pairs: tibiae with many rows of long spines, like the underside of the tarsi at the base. The three last joints of the front and middle tarsi with a peculiar structure; in the male they are of a semilunar form, and are provided below with a dense and soft fringe without bristles, with the exception of a single strong bristle at the base of the third segment. Claws strong and short, black, with dark-reddish base. The wings are greyish-hyaline, more or less infuscated towards the middle, but not at the end as in

longirostris, and hyaline around the transverse veins; the veins are pale yellow, darkened at end; the scaly hairs on the base of the costa and first vein are yellowish; there is sometimes the recurrent stump of a vein in the basal angle of the second longitudinal vein.

HENICA, Macquart (1834).

The characters of this genus and the differences from *Cyllenina* have been pointed out by Loew under the name of *Lagochilus*; Loew has also noticed the length of the praefurca, or, as he says, the shortness of the first submarginal cell. This character shows an affinity between *Henica* and *Nomalonia* and the true *Exoprosopinae*, and it is important to note that Wiedemann first described the species as belonging to *Anthrax*. Both genera have a rather isolated position in the Cylleniinae.

HENICA LONGIROSTRIS, Wiedemann (1878).

A well-known, common South African species, very distinct owing to the peculiar venation.

A couple of specimens from the Cape, Hex River, November, 1882, labelled by Bigot "*Cyllenina pluricellata*, Macq."; another female specimen from Stellenbosch (Cape), L. Péringuey.

The four anterior tarsi of the male have the same structure as described above for *Nomalonia afra*.

PERINGUEYIMYIA, Bigot (1886).

A genus briefly described by Bigot, and with affinity to *Amictus*, from which it differs chiefly in the recurrent, strongly looped end of the second longitudinal vein, and in the long, strongly curved and appendiculate upper branch of the cubital fork. The structural features of the genus are as follows: Body broad and stout; abdomen depressed. Head with the occiput much inflated above; the middle longitudinal furrow of the vertex is present, but it is much less pronounced than in *Cyllenina*; ocular border bare. Ocellar tubercle less prominent, with three well-developed ocelli, disposed in an equilateral triangle. Eyes bare, with non-indented hind border and with the upper areolets distinctly enlarged in the male; they are closely approximate together for a long distance, but not touching in the male and not broadly separate in the female. Vertical triangle of male small—many times smaller than in *Henica* or in *Nomalonia*. Face short, not prominent, with a fine moustache of dense hairs on the sides

and on the mouth-edge; cheeks and chin narrow; mouth-opening long. Antennae short, inserted over the centre of the eyes, approximate at the base; first joint thickened, provided with a tuft of very long and dense hairs below; second short and globular; third joint much smaller and a little longer than the first, with the basal half ovate and the apical half styliform. Proboscis short and thick, not longer than the head, with broad terminal labella; palpi thin and rather long. Thorax villose, with long but not rigid praesutural, supra-alar and postalar macrochaetae; scutellum with bristles at the hind border; metapleurae and hypopleurae bare and shining. Squamae short, but well developed and fringed. Abdomen villose, but without bristles at the hind border of the segments. Male genitalia of great size and complicated, but not prominent. Legs stout, with spinose femora and tibiae; pulvilli well developed, long. Wings long, with no distinct alula; second longitudinal vein much looped at the end and retreating, reaching the costa nearly in contact with the first vein, the marginal cell being therefore very broadened at end but almost closed; praefurca very short; upper branch of cubital fork very retreating at base, and there angulate and provided with a recurrent stump; distal cross-vein placed in the last third of the discoidal cell, which is long, and with the vein dividing it from the third posterior cell very long and S-shaped. First posterior cell closed at border, anal cell open but narrowed at end; axillary lobe proportionally short; ambient vein complete. There are 2 sub-marginal and 4 posterior cells present.

PERINGUEYIMYIA CAPENSIS, Bigot (1886).

A rather hairy species, reminding one of *Nomalonia afra*, and at once distinguished by the black punctate wings.

Originally described from the Cape, there are 1 male from Namaqualand, Springbok, November, 1890 (R. M. Lightfoot), a male from Garies (Cape), November 28th, 1885 (L. Póringuey), labelled by Bigot (type); and another female from Bushmanland, Jackal's Water, October, 1911 (R. M. Lightfoot).

Length of body 9–12.5 mm.; of wing expanse 20–26 mm. Head entirely black; occiput rather shining, grey-dusted near the eye-borders, with short pale yellowish hairs; ocellar tubercle black and black-haired; frontal triangle of male bare, densely grey-dusted. The linear frons between the eyes is not broader than the front ocellus. Frons of female at the vertex not more than $\frac{1}{7}$, and at the base of antennae $\frac{1}{5}$ of the head, shining black, black-haired near the ocelli, white-haired on

the remainder, more densely near the antennae. Hairs of moustache white or pale yellowish. Antennae entirely black; the short hairs on their upper side are black, very long and dense; the hairs of the under side are white; proboscis and palpi black. Thorax and pleurae entirely black; the back is clothed with a rather long and dense, pale yellowish or dirty whitish pubescence, and with a little longer, numerous black hairs. The bristles are black; some have yellowish tips; the pleurae are shining, with tufts of whitish hairs only on the propleurae and the hind border of the mesopleurae. Scutellum red, with a narrow black base, and bearing a pale yellowish pubescence, longer black hairs, and yellowish bristles along the hind border. Squamae dirty yellowish, with golden or whitish yellow fringe; halteres with a dark stalk and whitish knob. Abdomen black, with the hind border of each segment, the first excepted, with a narrow but complete reddish-yellow band, which is broader in the male; venter black, grey-dusted, with long whitish hairs. The pale yellowish or whitish pubescence of the upper side is rather long and dense, chiefly on the sides of the first segment; in the female the pubescence on segments 1-5 is quite white, and forms short bands on the ventral side of the hind border of the tergites.

Male genitalia red, the end of the abdomen in this sex is black pilose below; the ovipositor of the female appears provided with a circlet of long spines, like that of some *Exoprosopinae*. Legs black, grey-scaled; tibiae and basal joints of tarsi reddish yellow; the coxae are densely pilose, the hairs being white above and black below; all the femora are black spinose underneath, like the tibiae; claws black, with a reddish base; pulvilli dirty-yellowish. Wings wholly hyaline, vitreous; veins yellow, darkened outwardly; costa with black hairs at the base, but the first vein is entirely bare. The dark spots are on the short praefurca, on the discal cross-vein and on the angulate base of the upper branch of the cubital fork; three smaller and less distinct spots are situated on the base of the fourth posterior cell, on the inner base of the third posterior cell, and on the base of the second posterior cell; sometimes there is also a less distinct spot at the closed end of the first posterior cell.

SUBFAMILY LOMATIINAE.

LOMATIA, Meigen (1822).

The rather numerous South African species of this genus can be divided into three groups, based on the shape of the third antennal joint and on other characters. These groups are different from those proposed by Loew; they are distinguished as follows:

- 1 (2). Wings narrow and long, with the upper branch of the cubital fork angulate at the base and there provided with a recurrent veinlet; discoidal cells three times as long as the second posterior cell and very acute outwardly; third antennal joint in the shape of a very long, acute cone, linear; praesutural macrochaetae black; hind femora with many spines below. (First group) . . . *acutangula*, Loew.
- 2 (1). Upper branch of cubital fork not appendiculated and discoidal cell not more than twice as long as the second posterior cell; third antennal joint not linear.
- 3 (14). Third antennal joint broad at base and afterwards forming a very thin and long styliform point; wings with a more or less extended pattern, with a distinct basal comb and with a rather long discoidal cell; praesutural bristles yellow; hind femora with many spines below. (Second group.)
- 4 (9). Species of great size, with the wing pattern extended to the hind border, and with clear stripes on the fuscous middle area; anal cell with narrow end.
- 5 (6). Legs entirely yellow; wings infuscated, with a whitish end, and a whitish, longitudinal middle stripe . . . *longitudinalis*, Loew.
- 6 (5). Legs entirely black, or with dark-yellowish tibiae or base of tarsi.
- 7 (8). Wings with the fore basal half infuscated and the hind half clear with broad fuscous borders of the veins; body pubescence pale yellowish; tibiae with yellow ground-colour . . . *liturata*, Loew.
- 8 (7). Wings yellow and brown on the disc, with a broad brown, praecipital band and a brown hind border; pubescence bright yellow or golden; tibiae black . . . *pictipennis*, Wied.
- 9 (4). Wing pattern limited to the fore border, not extending in the middle over the fourth longitudinal vein; if the hind border is infuscated, there are no clear stripes in the middle; anal cell less narrowed at end; species of medium size.
- 10 (11). First basal cell infuscated at the base only and first submarginal cell entirely hyaline in the male; antennal tuft with black hairs on the inside . . . *simplex*, Wied.
- 11 (10). First basal cell entirely darkened as far as the discal cross-vein in both sexes and first submarginal cell darkened at base.
- 12 (13). First posterior cell not narrowed at end; wings with the hind half rather infuscated . . . *infusata*, sp. nov.
- 13 (12). First posterior cell much narrowed at end; wings with the hind half quite hyaline . . . *conocephala*, Macq.
- 14 (3). Third antennal joint in the shape of a short cone; wings entirely hyaline, without basal comb; thorax with black praesutural bristles and provided with a distinct collar of black bristly hairs in front; hind femora with a few bristles below; smaller species, of a deep black colour, with silvery hairs on abdomen. (Third group.)
- 15 (16). Tibiae yellow; pubescence on pleurae and abdomen of a yellowish colour . . . *latiuscula*, Loew.
- 16 (15). Tibiae black; pleurae and abdomen with white pubescence. . . *tenera*, Loew.

LOMATIA ACUTANGULA, Loew (1860).

Dipteren-Fauna Süd-Afrikas, p. 203, pl. ii, fig. 10.

A species very distinct from any other on account of its slender body and of the very long and narrow wings, which have besides a peculiar venation.

Originally described from Caffraria, and subsequently recorded from Pretoria (Transvaal), there are in the collection some specimens from M'Fongosi, Zululand, February and December (W. E. Jones).

In the present species the middle femora have 2 strong spines in the middle of the fore side, and the hind femora 3-4 spines below. The hitherto undescribed male is very like the female; the eyes are more approximate but always more distinct than in the allied species; the ocellar tubercle is curiously shaped, with a prominent border behind.

LOMATIA LONGITUDINALIS, Loew (1860).

Dipteren-Fauna Süd-Afrikas, p. 204, pl. ii, fig. 11.

A gigantic species, very different from any other by having wholly yellow legs. Originally described from Caffraria, there is a male specimen from Berg River (Cape).

Middle femora with 4, hind femora with 8-9 spines.

LOMATIA LITURATA, Loew (1860).

Dipteren-Fauna Süd-Afrikas, p. 205, pl. ii, fig. 13.

A species distinguished by the yellowish tibiae and by the peculiar, often less pronounced coloration of the wings. Described from the Cape, and recorded with a doubt from Barberton (Transvaal), there are a couple of specimens from Potchefstroom (Transvaal) (T. Ayres).

Middle femora with 5-6, hind femora with 7-8 spines.

LOMATIA PICTIPENNIS, Wiedemann (1828).

Loew's Dipteren-Fauna Süd-Afrikas, pl. ii, fig. 12.

A well-known species, easily recognisable by the black legs and the very variegated yellow and brown wings.

Common in South Africa; M'Fongosi, Zululand, December, 1911 (W. E. Jones); I have received it also from Grahamstown, March, 1909 (Miss Dale).

Middle femora with 3, hind femora with 5-6 spines.

LOMATIA SIMPLEX, Wiedemann (1819).

A smaller species, very distinct from the others of the present group owing to the reduced wing pattern of the male, the first basal cell being darkened at the base only.

This species seems to be common in South Africa; there are many specimens of both sexes from Barberton, Transvaal, December, 1911 (H. Edwards); a large male specimen from Hex River (Cape) is labelled by Bigot as *Anthrax albifrons*, n. sp.; it has a wholly yellow antennal tuft. The present species is variable in the coloration of the hairs on the face and frons, which in the male are often white, not yellow; in the female the hairs of the under side of the first antennal joint have usually no black hairs on the inner border, while in the male they have such as in *pulchriceps*. Middle femora with 2-3, hind femora with 3-4 spines.

In the female the wings are more infuscated; the first basal cell is fuscous to the end, and the second basal cell, and often even the discoidal cell, are also infuscated.

LOMATIA INFUSCATA, nov. sp., ♀.

A rather large species, distinct from the others by the wholly infuscated wings, which are destitute of clear stripes, but show a distinct fuscous pattern, of the type of that of *pulchriceps*.

Type ♀, a single specimen from Pinetown, Natal, June, 1883 (G. H. Bowker).

Length of body 10.5 mm.; of a wing, 10 mm. Occiput shining black, with faint grey dust; scarce golden tomentum and short yellowish hairs along the borders of the middle depression. The longitudinal furrow behind the vertex is narrow but deep; ocellar tubercle brown, with a prominent hind border, black haired; frons shining black and black pilose, with a transverse band of golden hairs above the base of the antennae. Face and cheeks black, with golden hairs; chin black, almost bare. Antennae entirely black; first joint black and briefly hairy on the upper side, with a long tuft of rigid golden hairs underneath and with black ones intermingled on the inner side; third joint at the base as broad as the second, gradually tapering in a long styliform point, which is of a reddish colour at end. Proboscis and palpi black. Thorax and scutellum deep black, densely clothed with golden yellow hairs; the bristles are yellow or dark yellowish, but the 2 praesutural ones on the right side are quite black (in 2 specimens of the British Museum these bristles are, however, entirely yellow, which may be the rule); pleurae black, densely grey-dusted,

with golden yellow hairs on propleura, mesopleura and sternopleura. Squamae black, with golden fringe; halteres dark yellow, with paler knob. Abdomen entirely black, a little shining, broader than the thorax, with faint bands of golden tomentum at the hind border of the segments, and with golden-yellow hairs dense and long on the sides and long black hairs intermingled after the middle; venter black, grey-dusted and yellow-haired; genitalia with a dense and long tuft of metallic shining hairs. Legs entirely black, with dense yellowish scaly tomentum on femora and outer side of tibiae; all the spines are black; middle femora with 4, hind femora with 2-3 spines; claws short, black; pulvilli blackish. Wings long, shining, iridescent, rather infuscated over the entire surface (but it is possible that in the yet unknown male they are clear at the hind border, because in the present genus the females have the wings always darker than the males); the usual pattern, filling out the fore border and the first basal cell to the discal cross-vein, is distinct and very dark; venation typical. First posterior cell not narrowed at end; discoidal cell more than twice as long as the second posterior cell; third posterior cell very narrow and long; anal cell narrowed at end, more than in the applied species. Base of wing blackish; basal comb less developed.

LOMATIA CONOCEPHALA, Macquart.

Dipt. Exot., ii, p. 62, pl. xx, fig. 1 (1840).

Easily distinguishable from the allied species by the much narrowed end of the first posterior cell and by the infuscated lower end of the second basal cell.

Macquart has described in an unrecognisable manner the female from the Cape as *Anthrax conocephala*; but as the figure represents without doubt the wings of a *Lomatia* of the present group with a narrowed end of first posterior cell, I think that this name should be retained for the present species. There is a male from Smithfield, Orange Free State, September, 1910 (Dr. D. Kannemayer).

Ociput black, briefly black-haired above and grey-haired on sides; frons black, with the basal half black-haired, the apical half with long, pale-yellowish, sericeous shining hairs divided along the middle line and directed outwards. Antennae black, the hairs of the lower side of the first joint being entirely yellowish like those on face and cheeks. Hairs of thorax pale-yellowish on back and whitish on sides; bristles yellow. Scutellum black, haired as the thorax. Squamae dirty-whitish, with brown border and dense white fringe; halteres yellowish, with whitish knob. Abdomen entirely black, hairy like the thorax,

with black hairs intermingled at end; the hairs are dense and long on the sides, and have a white sericeous sheen; venter grey-dusted and pale yellowish tomentose, with scarce but long pale hairs. Legs entirely black, yellowish or whitish scaled, with pale hairs on coxae and under side of femora, and with black spines; middle femora with 4-5, hind femora with 5-6 spines; claws black, pulvilli blackish. Wings hyaline, with a long, black basal comb and black veins; costal cell, marginal cell to the end of the first vein, first submarginal cell at base and first basal cell to the distal cross-vein infuscated; base of wing infuscated above and yellowish below; second basal cell infuscated at base, at the fore-border and on the vein dividing it from the fourth posterior cell; first posterior cell much narrowed at end, nearly as narrow as the anal cell; discoidal cell twice as long as the second basal cell.

LOMATIA PULCHRICEPS, Loew (1860).

Closely allied to *conocephala*, Macq., but distinguished by the black and stout prae-alar bristles, and by the white tufts below the antennae.

A specimen from Salisbury, Arcturus, 1916 (Dr. Melle), and another from M'Fongosi, Zululand (W. E. Jones).

LOMATIA LATIUSCULA, Loew (1860).

A smallish, deep-black coloured species, very like a little *Thyridanthrax* with hyaline wings, easily distinguishable from the allied species by its yellow tibiae.

Described from the Cape. I have received a specimen from Grahamstown (Cape), February, 1903 (Miss Dale and Miss M. Soly).

In this species the bristles of the collar in front of the thorax are thin and yellow, but the praealar bristles are strong and black. Middle femora with 1, hind femora with 1-2 spines; the spicules of the 4 hind tibiae are very long and strong, but less numerous than usually.

LOMATIA TENERA, Loew (1860).

Nearly allied to the preceding, but at once distinguished by the black collar in front of the thorax and by the entirely black legs. Originally described from Caffraria, there is a single male specimen from Bulawayo (South Rhodesia), December 11th, 1911. The femora are as in the preceding species; the tibiae have numerous but thin spicules.

PTERAULAX, gen. nov.

The present new genus is very near *Cononedys* and *Aphoebantus*; with them it forms a small group distinct in having no prominent face, separated antennae, united eyes of male, a folded wing membrane, short praefurca, and the second vein originating at an acute angle. In general shape, however, this group agrees perfectly with that of *Plesiocera-Stomylyomyia* and with that of *Petrorossia-Chionamoeba*; and therefore I place all these 3 small groups of Becker with *Lomatia* in a single group of Lomatiinae.

The structural features of the new genus are as follows: Head nearly spherical, broader than the thorax. Occiput convex and prominent, with a very deep post-vertical furrow, bilobate above; it is excavated in the middle and destitute of fringe at the border. Eyes bare, of great size, with a very developed indentation in the middle of the hind border and with a well-developed bisection line; in the male they have the upper inner areolets much broader and are united for a rather long line; in the female they are broadly separated and have equally small areolets. Ocellar tubercle prominent but small, ovate, with three equidistant ocelli. Face broad, long, not prominent, pilose; genae very narrow; chin broad and flat, destitute of long beard. Antennae short, inserted a little above the middle of the eyes; they are broadly separated at the base, but the first joint shows a protuberance on the inner side by means of which the antennae are approximate; the hairs of the under side are not tuft-shaped as in *Lomatia*. The second joint is short and globose; the third joint is as long as the 2 first joints together, broadened and rounded at base, and narrowed to form a point half as long as the first, which bears at the end a well-developed, bi-articulate style. Mouth-opening of small size, oval; proboscis very short, shorter than the head, thick, with broad terminal labella; palpi short and strong, less pilose, bi-articulate, the apical joint ovate, about half as long as the first. Thorax convex, with strong and long praesutural and supraalar bristles, and also with 2 pairs of bristles in front of the scutellum; metapleurae bare; squamae rather developed, with short fringe; scutellum developed, with some bristles at hind border. Abdomen of conical shape, in the male very narrow and obtuse, in the female more depressed, broader and acute at end. Male genitalia of great size, rounded, closed; female genitalia with dense tuft of hairs. Hind border of the abdominal segments with more or less developed rows of bristles, more developed in the female. Legs strong; hind femora much spinose beneath; spicules of tibiae long and thin; many long spurs at the

end of the tibia. Claws long; pulvilli well developed. Wings short and narrow, without basal comb, and with the membrane strongly folded (whence the name *Pteraulax*). Base narrow, the alula less developed, but distinct and rounded; prae-furca short. Second and third vein at an acute angle; second vein looped at end, but not retreating; cubital fork broad, retreating at the base of the upper branch and united with an appendage to the second vein. Therefore there are 3 submarginal cells, the base of the upper branch of the cubital fork in the shape of a short cross-vein between the appendix and the rest, which are on the same line. First posterior cell closed before the border, acute at end, and provided with a rather long stalk; discoidal cell obtuse at end, less than twice as long as the second posterior cell, the discal cross-vein placed a little before its middle; 2nd, 3rd and 4th posterior cells of equal breadth at end; anal cell long, with parallel sides, narrowed at end but open. Ambient vein complete; axillary lobe well developed.

In the allied *Cononedys stenura*, Loew, there are no pulvilli; but in *C. erythraspis* they are present, and Prof. Hermann has proposed for it a new genus, *Conogaster*—a name which cannot be maintained, because it is preoccupied in the Diptera by Brauer and Bergenstamm, 1892.

Type: The following new species.

PTERAULAX FLEXICORNIS, sp. nov., ♂, ♀.

An *Aphoebantus*-like species of middle size, very distinct owing to its singular venation and by the shining black hind part of the scutellum.

Type ♂ and type ♀; a single couple of specimens from Bushmanland, Een Riet (Cape), October, 1911 (R. M. Lightfoot). I have seen in the Museum of Budapest a second species from Willowmore, in which the scutellum is not shining black behind and the abdomen is more setose.

Length of the body 10 mm.; of a wing 7 mm. Entirely black, grey-dusted, and white and yellowish tomentum. Occiput dark grey-dusted above and paler grey below, with short greyish pubescence and white scales on the sides near the eye's indentation. Ocellar tubercle black, grey or brownish-haired. Frons of the male grey-dusted and entirely clothed with whitish hairs, like the face; frons of female shining black, with brownish hairs, with whitish ones like those of the face in front only. Antennae black; first joint with whitish hairs. Proboscis black; palpi yellow. Thorax black; on the back it is dark grey-dusted, with three distinct but narrow longitudinal

stripes of paler dust, one along the middle line, the others along the dorsocentral lines. The hairs in front and on the sides are pale yellowish or whitish; in the female there are besides numerous short bristles on the notopleural line. Pleurae with pale grey dust, and with white scales on the lower part of the mesopleura and on the sternopleura; the mesopleural hairs are greyish. Scutellum grey-dusted at base and with yellow tomentum, shining black at the hind border and on the sides; the bristles of the hind border are yellow or yellowish. Squamae dirty whitish, with pale yellow border and white fringe; halteres yellow, with darker knob. Abdomen black, grey-dusted; the segments have whitish scales at the base on the sides and on the hind border, and yellow scales in the middle; first segment with long, dense, whitish hairs, the other segments with scarce, grey or pale yellowish hairs, more developed in the male. The ventral side of the tergites has a narrow yellow border; venter grey-dusted, white-scaled, with greyish hairs. Male genitalia grey, with the lower border of the lamellae reddish; terminal tuft of the female genitalia of golden yellow colour. Coxae and femora black, grey-dusted, white-scaled, whitish haired; the 4 anterior femora only narrowly yellow at end; middle femora with 3-4 yellow spines on the middle of the anterior side; hind femora with 6-7 whitish or yellow spines below, which in the male are very long, forming near the base a tuft of 4-5 longer ones placed in many rows. All the tibiae are pale yellowish, with numerous and long yellowish or whitish spicules and spurs, even on the front pair. Tarsi pale yellowish, darkened at end, with whitish or yellowish spines at end of the two first joints; claws pale yellowish with black tips; pulvilli whitish yellow, longer in the male than in the female. Wings hyaline, vitreous, iridescent; veins black, the first and the extreme base of the others being yellow; alula pale yellowish, with a short white fringe. In the present species the recurrent veinlet dividing the first from the second submarginal cell is about twice or even a little more as long as the basal part of the upper branch of the cubital fork—looking, therefore, as not being the continuation of the second longitudinal vein.

PETROROSSIA, Bezzi (1908).

This genus is well represented in the Ethiopian Fauna, and there are also some species in South Africa; those in the collection can be distinguished as follows:

- 1 (4). Thorax, scutellum and abdomen with yellowish or greyish tomentum abdomen black, but with reddish yellow sides; legs pale yellow.

- 2 (3). Wings hyaline, with a less defined basal infuscation; second longitudinal vein with the usual less deep loop at end *hesperus*, Rossi.
- 3 (2). Wings entirely blackish-brown, with hyaline spots in the centre of the cells; second longitudinal vein exceedingly looped at end.
vinula, sp. nov.
- 4 (1). Thorax, scutellum and abdomen with bright orange tomentum abdomen of an orange yellow colour, with a black middle stripe; legs orange-colour *fulvipes*, Loew.

PETROROSSIA HESPERUS, Rossi (1790).

There is a female of large size of this Mediterranean species from Hex River (Cape) (Dr. L. Péringuey), January 3rd, 1883, but without a head, and it cannot be ascertained if the example belongs to the var. *tropicalis* or not. The wings have the basal half infuscated, and there is a short appendix at the base of the upper branch of the cubital fork.

PETROROSSIA VINULA, sp. nov., ♂, ♀.

Closely allied to the preceding, but at once distinguished on account of its peculiar wing pattern and venation.

Type ♂ and type ♀, a single pair from Hex River (Cape), December, 1889 (Dr. L. Péringuey), labelled by Bigot as "*Lygira vinula*"—a name which has never been published. Bigot has evidently placed the species in the genus *Lygira* on account of the strong terminal loop of the second longitudinal vein; but in this genus the form of this loop is a very different one, the end of the second vein being strongly recurrent; there are, moreover, 4 submarginal cells, and the position of the discal cross-vein is as in *Lomatia*.

Length of body 6.5–8 mm.; of a wing 7.5–9 mm.; of the wing spread 16.5–20 mm. Head black, grey-dusted: occiput well developed, deeply bilobate above, with a short pale yellowish pubescence; ocellar tubercle small, rounded, with blackish pubescence; frons with long, blackish, erect hairs and short yellowish pubescence on fore half; face grey-dusted, with yellowish pubescence. Antennae entirely black, short; first joint black-haired in the male, with some yellowish hairs below in the female; third joint with the basal part broad and discoidal, the styliform part long and ending in a pencil of sparse hairs. Proboscis short, black. Thorax and scutellum entirely black, a little shining, with pale yellowish pubescence, yellow tomentum and yellowish bristles; pleuræ with pale grey dust, with whitish hairs on propleura, mesopleura and sternopleura. Squamæ dirty whitish, with a pale fringe; halteres yellow. Abdomen black, rather shining, with yellow tomentum and pale yellow hairs; on the sides near the

base there is a narrow reddish-yellow stripe; venter reddish, whitish-haired; male genitalia of great size, bilobate, black above, red below, with yellow hairs. Legs entirely pale yellow, white-scaled; femora and tarsi more or less darkened at end; hairs of coxae and of the under side of femora white; the thin spines of the hind femora and the short spicules of the tibiae are black; claws black, pulvilli whitish. Wings very long, with pedunculate base; the costa is not ciliated at base and the alula is very rudimentary; they are entirely and equally infuscated, the axillary lobe only being hyaline with a dark end. The hyaline stripes are placed on the end of the first and of the second submarginal cells, this last being in contact with the whole wing border between the ends of the two branches of the cubital fork, in the middle of the 2nd, 3rd and 4th posterior cells, and one broader than the others, of ovate shape, in the last half of the discoidal cell; in addition there is the usual whitish spot on the upper exterior angle of the second basal cell. The veins are black; the second longitudinal is suddenly and deeply looped before the end, and its origin is equidistant from the base of the third vein and the discal cross-vein; upper branch of cubital fork gently rounded at base and destitute of stump. First posterior cell long, not, or little narrowed at end; discal cross-vein placed on the first third of the discoidal cell; this last cell is long, very dilated in its last half, and therefore much constricted before the middle; third posterior cell very elongate and very narrowed in its last half; anal cell narrowed at end; ambient vein complete.

PETROROSSIA FULVIPES, Loew (1860).

Dipteren-Fauna Sud-Afrikas, p. 210, pl. ii, fig. 14.

A well-known Ethiopian species, easily distinguished by its elegant coloration. M'Fongosi, Zululand; Natal, Stella-Bush; but the species is common and widely distributed over the entire region; it is hardly distinct from the Oriental *P. fulvula*, Wied.

SUBFAMILY ANTHRACINAE.

ANTHRAX, Scopoli (1763).

This name is used here, not in the usual sense of the authors (for these species, see *Villa* and *Thyridanthrax*), for the species of *Argyro-moeba* which have a broad third antennal joint, an extended black pattern on the wings and a silvery abdominal apex in the male. The rather numerous species may be tabulated as follows:

- 1 (2). Squamæ dark brown; second longitudinal vein deeply looped at end; upper branch of the cubital fork with a second stump in the middle; wings with many confluent dark spots, 4-5 of which are placed at apex *pithecius*, Fabr.
- 2 (1). Squamæ white or whitish; second longitudinal veins less looped at end; upper branch without appendix in the middle, or only as an exception; apex of wings hyaline, without dark spots.
- 3 (6). Basal black pattern of the wings extended over the discal cross-vein, filling out a great part of the marginal cell and the base of the first submarginal and of the first posterior cell; plumula with a black fringe; discal cross-vein placed before the middle of the discoidal cell.
- 4 (5). Wings with the brown pattern well defined and with 4 isolated dark spots, 3 of which placed on the lower vein of the discoidal cell; a hyaline spot in the dark base of the first posterior cell. *hessii*, Wied.
- 5 (4). Wings with a diffused pattern and with only 3 dark spots, 2 of which are on the discoidal cell; no distinct hyaline spot in the dark base of the first posterior cell *diffusus*, Wied.
- 6 (3). Basal black pattern not extended over the discal cross-vein; discal cross-vein usually placed on or after the middle of the discoidal cell.
- 7 (10). Two distinct isolated dark spots in the hyaline part of the wings.
- 8 (9). Species of great size, measuring 14-15 mm. in length; recurrent veinlet at the base of the upper branch of the cubital fork long; plumula white *aygulus*, Fabr.
- 9 (8). Species of smaller size, measuring only 6-7 mm.; recurrent veinlet at the base of upper branch short and often rudimentary; plumula black *pusillus*, Wied.
- 10 (7). No distinct dark isolated spots in the hyaline part of the wings.
- 11 (12). The black basal pattern of the wings is limited by an oblique line extending from the end of the auxiliary vein to the end of the anal cell, the extreme apex of which is hyaline *hemimelus*, Speis.
- 12 (11). The black basal pattern reaches only the middle of the anal cell, and has a tooth-like projection on the discal cross-vein. *fuscipennis*, Ric.

ANTHRAX PITHECIUS, Fabricius (1805).

A well-known and common African species, easily distinguished by the peculiar wing pattern.

Many specimens of both sexes, varying in size from 8.5 to 12 mm. M'Fongosi, Zululand, October, 1911 (W. E. Jones); Dunbrody (Cape) (O'Neil); Potchefstroom, Transvaal (T. Ayres); Bulawayo, S. Rhodesia (G. Arnold), September, 1913; Salisbury (S. Rhodesia), January, 1914 (J. A. O'Neil). A specimen from Hex River, December, 1882, was determined by Bigot as *Exoprosopa reticulata* Macq. (*sic!*). I have received the species also from Grahamstown (Cape).

ANTHRAX HESSII, Wiedemann (1818).

An elegant species, very distinct owing to the well-defined and characteristic wing pattern.

It is known only from South Africa. Giftsberg, Van Rhynsdorp (Cape), September, 1911; O'Okiep (Cape), September, 1890.

A female specimen from Hex River (Cape), December, 1884, determined by Bigot as *Anthrax punctipennis*, Wied., seems to belong to this species, but is aberrant in having the first submarginal and the first posterior cells almost hyaline to the base, and therefore the hyaline spot after the discal cross-vein is wanting.

ANTHRAX DIFFUSUS, Wiedemann (1824).

Closely allied to the preceding, but at once distinguished by the less defined and more extended wing pattern, the isolated dark spots being therefore much less marked. Known from South Africa and recorded by me from Nyassa. A single male specimen from Bushmanland, Jackal's Water (Cape), October, 1911 (R. M. Lightfoot); an old specimen of great size (37 mm. of wing expanse), without a head, with wholly infuscated wings.

It is notable that of *A. diffusus* I have seen males only, and of *hessii* females only; they are perhaps the two sexes of a single species.

ANTHRAX AYGULUS, Fabricius (1805).

A species of great size with dimidiate wings and two dark spots in the vitreous part.

Widely spread over the entire Ethiopian region, and seemingly also over the whole Oriental region. A single female specimen from Dunbrody (Cape), March 20th, 1912; the species was not yet recorded from South Africa.

ANTHRAX TRIMACULATUS, V. der Wulp (1868).

Easily distinguished from the allied species by the presence of three isolated brown spots in the hyaline part of the wings.

A female specimen from East London, Cape Colony, July, 1914 (R. M. Lightfoot).

ANTHRAX PUSILLUS, Wiedemann (1821).

Very like *A. aggulus*, but only half its size.

Widely spread in Africa, but less known; very like the Oriental *distigma*, Wied., but smaller. A single male specimen from Hex

River (Cape), January 10th, 1887, labelled by Bigot as *Anthrax pusilla*, Wied. An additional example from Kimberley (Cape), 1918 (J. H. Power).

ANTHRAX HEMIMELAS, Speiser (1910).

A black species of small size, very distinct on account of its perfectly dimidiate wings.

Described at the same time by Speiser from Kilimandjaro and by me as *A. homogeneous* from Nyassa, it is interesting to record it from South Africa. A single female from M'Fongosi, Zululand, December, 1911 (W. E. Jones).

ANTHRAX FUSCIPENNIS, Ricardo (1903).

Distinct owing to the reduced black pattern of the wings, which have a tooth-like projection on the fore border, the apical half of anal and axillary cell being hyaline.

A single female specimen from Bushmanland, Henkries (Cape), October, 1911 (R. M. Lightfoot).

This species seems to be widely spread over all the Ethiopian region, but was not recorded from South Africa. It seems that *muscurius*, Klug (*nee* Pallas), from Egypt, *fuscipennis*, Ric., from Sokotra, *dentatus*, Beek, from Egypt and *camptocladius*, Bezzi, from Nyassa are all the same species, the latter one representing a colour variety with entirely black first basal cell, and therefore without a tooth-like projection on the fore border.

SPÖNGOSTYLUM, Macquart (1840).

Under this name I include the species which Becker has placed in his restricted genus *Argyramoeba*; they are distinguished from the preceding genus chiefly in the shape of antennae and in the wing-pattern. All the following species have only 2 submarginal cells and they may be distinguished as follows:

- 1 (2). Origin of the second longitudinal vein placed a little before the discal cross-vein; base of the second vein and of the upper branch of the cubital fork destitute of stumps, or if present they are very short. *muticum*, sp. nov.
- 2 (1). Origin of second vein just opposite to the discal cross-vein; base of second vein and of upper branch always provided with long stumps.
- 3 (4). No brown spot at the base of the cubital fork or a very indistinct one, abdomen with narrow or less distinct yellow hind border on segments, and on sides, with usually tufts of black hairs, or with very few scales *incisurale*, Macq.

- 4 (3). A broad brown spot at the base of the cubital fork; abdomen with yellow hind borders and with tufts of black, scaly hairs on sides.
punctipenne, Wied.

SPONGOSTYLUM MUTICUM, sp. nov., ♂, ♀.

Closely allied to the following species, but distinguished by the characters of the venation and by the somewhat different wing pattern.

Type ♂ and type ♀ from Bushmanland, Jackal's Water (Cape), October, 1911 (R. M. Lightfoot); a ♂ from Een Riet (Cape), October, 1911; a ♀ from Namaqualand, August, 1873 (R. Trimen).

Length of body 8–10 mm.; of wing 9–11 mm.; of the wing spread 21–26 mm. A description is not necessary, because this species is almost similar to *incisurale*, of which it may be perhaps only a variation. But in the wings there are important differences:—(a) in *venation*: The origin of the second vein takes place at a considerable distance before the discal cross-vein, this distance being, however, shorter than the length of the discal cross-vein; this cross-vein is placed nearer to the middle of the discoidal cell. The basal angle of the second vein is rounded and without recurrent veinlet, or exceptionally only with a very short stump; the upper branch of the cubital fork is likewise rounded at base, and very rarely provided with a rudimentary stump. (b) In *pattern*: The brown spots on the cross-veins are broadened to form short bands, recalling the pattern of *S. trifasciatum*, Wiedemann. The costal cell is dark in its whole length; the base of the wing is brown right to the humeral cross-vein, ending in an oblique line extended from this cross-vein to the axillary incision; the abbreviated band below the origin of the third vein extends to the sixth, filling out the end of the second basal cell; sometimes the 2 basal cells and the base of the marginal cell are entirely filled with brown, thus reproducing the *Anthrax* wing pattern.

One ♀ specimen from Jackal's Water has the wings wholly hyaline, pale yellowish toward the base, and without any distinct dark pattern, except the grey praediscoidal spot; the discal cross-vein is placed much before the middle of the discoidal cell, as in *incisurale*, but the curvature of the base of the second vein and of the cubital fork are as in the type. I give a name to this interesting variation, namely var. *elutum*, var. nov.

SPONGOSTYLUM INCISURALE, Macquart (1840).

A common and variable species, distinguished by having only 2 or 3 dark spots on the wings.

Numerous specimens of both sexes, varying in length between 7 and 12 mm. Namaqualand, Spektakel and Springbok (Cape), October and November, 1890 (R. M. Lightfoot). Bushmanland, Jackal's Water, and Matjesfontein (Cape), same collector; Hex River (Cape), December, 1884 (L. Péringuey); M'Fongosi, Zululand, December, 1914 (W. E. Jones); O'Okiep (Cape), November, 1885 (L. Péringuey); Inhambane, Mozambique (K. H. Barnard).

SPONGOSTYLUM PUNCTIPENNE, Wiedemann (1821).

A robust species, easily recognisable by having 4 or 5 dark spots on the wings and by the broad tufts of black scales on the sides of the abdomen.

A single male specimen from Hex River (Cape), December, 1884 (L. Péringuey), rightly determined as *Argyramoeba punctipennis* by Bigot.

SUBFAMILY EXOPROSOPINAE.

VILLA, Lioy (1864).

This genus is rather abundant in South Africa. The species can be easily recognised from those of the following genus, chiefly on account of the *spinulose* front tibiae. Those in the collection can be distinguished as follows :

- 1 (12). Wings without broad dark markings, even if a little darkened at base or along the fore border.
- 2 (11). Wings entirely hyaline, even at the fore border, sometimes with blackish or yellowish extreme base; species of medium or of small size.
- 3 (8). Abdomen without tufts of black scales on the sides of the middle segments; face without black hairs; wings with pale yellowish base and with mainly yellow veins.
- 4 (7). Abdomen without distinct black tufts at the sides near the end base of wings in the male with broad patagia-like, silvery organs.
- 5 (6). Legs with fulvous femora; abdomen clothed with short hairs, even on the sides *flavipes*, Loew.
- 6 (5). Legs with black femora; abdomen long-haired, chiefly on the sides. *albescens*, Loew.
- 7 (4). Abdomen with small tufts of black hairs at the sides of the 5th and 6th segments; wings of male destitute of silvery patagia; legs black, densely clothed with yellow scales *sexfasciata*, Wied.
- 8 (3). Abdomen with dense tufts of long black scales at the sides of the middle segments; face with more or less abundant black hairs; femora broadly yellow at the base; wings with blackish base and black veins, and in the male with silvery basal patagia.

- 9 (10). Abdomen with white, non-shining scales and provided at the end with alternating white and black tufts *vitripennis*, Lw.
10 (9). Abdomen with transverse bands of glittering silvery scales, and at the end entirely clothed with such scales *argentina*, sp. n.
11 (2). Wings darkened at the base and along the costal cell; legs yellow; species of great size *lasia*, Wied.
12 (1). Wings with a well-defined dark pattern, which fills up entirely the two basal cells; face white-haired; legs yellow *leucochila*, nom. nov.

VILLA FLAVIPES, Loew (1860).

A species of middle size with entirely hyaline wings, distinguished by the briefly haired abdomen and by the yellow femora. Female originally described from Caffraria, and not recorded subsequently. There is a male from Klipfontein, Namaqualand (Cape) (L. Péringuey). The hitherto undescribed male is like the female, but the frons at the vertex is only as broad as the ocellar tubercle; the eyes have the upper areoles a little enlarged; the wings have a broad silvery patagium and the basal comb is clothed with silvery scales.

VILLA ALBESCENS, Loew (1860).

Closely allied to the preceding, but at once distinguished by the black femora and by the long-haired abdomen.

Originally described from South Africa, but widely spread over the Ethiopian region. A male from Hex River (Cape), another male from Klipfontein, Namaqualand (Cape) (L. Péringuey).

VILLA SEXFASCIATA, Wiedemann (1821).

Allied to the preceding, but distinct owing to the small tufts of black hairs at the end of the abdomen and by the black legs, which, however, are densely clothed with yellow scales.

Described from South Africa and redescribed as *flavescens* by Loew; it is also widely spread. In the collection there is a female from Hex River (Cape), December, 1884 (L. Péringuey).

VILLA VITRIPENNIS, Loew (1860).

Dipteren-Fauna Süd-Afrikas, p. 217, pl. ii, fig. 18.

Distinguished from all the preceding species by the large tufts of black scales on the middle segments of the abdomen, and by the vitreous wings, which have a blackish base and black veins. Described

from South Africa, but widely spread. A male specimen from Barberton, Transvaal, December, 1911 (H. Edwards); a female from Hex River (Cape), January, 1883 (L. Péringuey); Otjivarongo (Damara-land), January, 1920 (R. W. E. Tucker).

VILLA ARGENTINA, sp. nov., ♂.

A very peculiar, small species, distinguished by the glittering silvery bands on the abdomen and at its apex.

Type ♂, a single specimen from Hex River, December, 1884 (L. Péringuey).

Length of body 8.5 mm.; of wing 7.5 mm. Head black; occiput tolerably shining, with abundant white scales near the middle of the eyes, with short dark hairs above and with greyish central fringe; post-vertical furrow narrow and deep, the ovate, prominent ocellar tubercle being placed just in front of it. Eyes dark brown, with the upper areolets a little enlarged, the indentation less developed, but the bisecting line very long; frons a little shining, about as broad at vertex as the ocellar tubercle, clothed with erect black hairs, and with scarce greyish cells near the eyes and on the frontal sides. Face rounded, not prominent, densely clothed with short black hairs and with abundant greyish scales. Antennae entirely black; the two first joints very short, of equal length, the first with black hairs; third joint with the basal discoidal part not longer but broader than the second joint, and the styliform part very thin, long, filiform, about as long as one and a half times the remainder, ending in a minute bristle. Mouth-opening narrow; genae linear; proboscis black, short, thick. Thorax and scutellum entirely black, faintly shining, finely punctulate; they have very minute, scattered, yellow scales and rather long whitish hairs in front and on the sides, these last whiter and forming a not well-indicated stripe; all the bristles are of a pale yellowish colour, those of the scutellum being darker. Pleurae grey-dusted, with whitish hairs, even on the metapleura; squamae dirty yellowish, with a brown border and glittering silvery fringe; halteres dark yellowish, with paler knob. Abdomen like the thorax, but narrowly red on the sides of the two first segments; the long hairs on the middle of the tergites are scattered, whitish near the base and blackish at end; the hairs of the sides are long, whitish on the 1st and 2nd, black and scaly on the 3rd, quite snow-white on the 4th, black and scaly on the 5th and 6th segments; the 7th segment is entirely clothed with long, silvery, glittering scales directed outwardly. On the base of the 2nd segment there is a narrow, less distinct band of

white scales; the 3rd and 4th segments have at the base a narrow band of long, glittering or bright scales interrupted in the middle. Venter black, with white scales and scattered white hairs; genitalia rather large, pendulous, set on the left side, reddish and brown, pale and dark-haired. Legs black, the femora broadly reddish at the base, the 4 anterior tibiae dark reddish; the scales are white, the hairs whitish, the spines black; front tibiae with distinct apicules; middle femora with 2 rather long, hind femora with 2 very short spines: hind tibiae with a sparse fringe of dark scales outwardly: claws black. Wings as in *vitripennis*, with a silvery patagium, but with entirely black basal comb; terminal loop of the second longitudinal vein much less indicated than usually, almost indistinct, and in consequence the upper branch of the cubital fork is less curved in the middle; discoidal cell more narrow; second posterior cell narrow and long, half as broad as the third. Alula long, pale yellowish grey, with a brown border and a broad greyish fringe; axillary lobe very short and broad.

VILLA LASIA, Wiedemann (1824).

A short-haired species of great size, with the wings infuscated at the base and along the costal cells.

Described from the Cape and recorded from South Africa by Fargeau, Serville and Walker. I am referring with doubt to the present species a couple of gigantic specimens from Bushmanland, Jackal's Water (Cape), October, 1911 (R. M. Lightfoot), measuring 15.5-17 mm. in length of body and only 12-13 mm. in length of wing, while Wiedemann gives only 5 lines. Frons of male as broad as the ocellar tubercle, that of the female twice as broad. Clothing of thorax entirely yellow, paler on the pleurae, bristles yellow. On the abdomen there are 5 transverse bands of yellowish scaly tomentum—at least in the male. Legs reddish with yellowish scales; femora and tibiae blackened at end, the tarsi likewise. Wings with typical venation, no silvery patagia in the male; basal comb very large with yellow scales: first posterior cell narrowed at end.

VILLA LEUCOCHILA, nom. nov. (for *V. LEUCOSTOMA*, Wied.).

Loew's *Dipteren-Fauna Süd-Afrikas*, Pl. ii, fig. 19.

Very distinct owing to the broad, brown markings of the wings, which fill the whole of the two basal cells.

Described in 1821 by Wiedemann from the Cape under the name of *leucostoma*. I change this name, because it is pre-occupied by Meigen,

1820. The species seems to be an exclusively South African one. There is in the collection a single male specimen from Kalk Bay (Cape). (R. M. Lightfoot).

OESTRANTHRAX, Bezzi (1912).

This very interesting genus was described by me in my paper on the African Bombyliidae of the British Museum for the type *Anthrax obesus*, Loew. The main characters of the genus are to be found in the broad and long facial plate, in the reduced mouth parts and in the absence of thoracical macrochaetae.

OESTRANTHRAX OBESUS, Loew, 1863.

A specimen from Cape Town, 1880. The species was described from South Africa, and some allied forms occur in other parts of the Ethiopian region.

SYNTHESIA, gen. nov.

I have to make a new genus for a species which shows a very strange combination of characters, connecting the Lomatiinae with the Exoprosopinae; it is aberrant like *Chiasmella*, but is closely allied to the preceding genus *Oestranthrax* as well as to the genus *Hemipenthes*. It may be defined as an Exoprosopine with 2 submarginal cells, with spinulose front tibiae, with bluntly convex face, with no developed macrochaetae, and with the second longitudinal vein originating before the middle cross-vein. In this last character the new genus *Synthesia* is drawing near to the Lomatiinae, while in the general conformation it is receding from them. It may be characterised as follows:

Body of oval shape, briefly pilose, not bristly at all. Head a little narrower than the thorax; occiput bilobate above, with a deep central cavity, and depressed between the eyes; central fringe complete, dense and short. Eyes separated in both the sexes, but the frons of the female always about twice as broad as that of the male; they are broadly indented at the hind border, but the bisecting line is less distinct. Ocellar tubercle rather prominent, elongate, with 3 equidistant ocelli. Frons quickly broadening in front beyond the middle; face bluntly convex, but very prominent; in a front view the face is narrowed beneath, and thus its broader line is to be found just below the root of antennae. Antennae set very widely apart from each other at base and inserted above the middle of the eyes; the 2 basal joints are very short; the third joint is elongate conical,

gradually tapering into a long joint, with a very short and thin apical style. Mouth-opening narrow and elongate; proboscis not at all projecting, shorter than the oral cavity, with not broad terminal labella; palpi long and thin, not much shorter than the proboscis and pilose. Thorax broad, not much convex above, without bristles, but at fore border and on sides above with dense tufts of bristly hairs; metapleurae hairy, while the surrounding parts are bare. Scutellum broad and semicircular, without distinct bristles at hind border. Squamulae with short, scaly fringe. Abdomen of oval shape, as broad as the thorax at base, acute behind in the male, obtuse in the female; male genitalia small, directed to the left side; spines of the ovipositor long, thin, curved. Legs with the front pair distinctly abbreviated; front tibiae with distinct spicules inside; front tarsi not specially pubescent; middle femora with 2 spines on the fore side on the apical half; hind femora with 3-4 short spines below on the apical half; 4 posterior tibiae with numerous and long spicules; pulvilli about as long as the claws, which are simple and curved. Wings rather broad and long, distinctly broader in the female; membrane smooth and very iridescent; they have no developed pattern, being only yellowish-fuscous on the basal half. Basal hook very stout and curved; basal comb very short; 2nd longitudinal vein originating at right angle and before the middle cross-vein at a distance which is about as long as the cross-vein itself, deeply looped at end; 3rd vein placed on the same straight line with the prae furca, its upper branch strongly S-shaped and not retreating at base; 2 submarginal cells only present. Discoidal cell rather short, acute at base and obtuse at end; its terminal cross-vein short and only a little oblique outwardly; in the female it is broader than in the male; the middle cross-vein is placed near its middle, or a little before it. First posterior cell of about the same breadth throughout its whole length; second posterior cell rectangular, about as broad at end as the third, which is acute and prolonged basally; fourth posterior cell broader than all the others, its contact at base with the discoidal cell being longer than the inferior apical cross-vein of the second basal cell; anal cell broadly open at end. Axillary lobe broad; alula well developed and fringed with scales; ambient vein complete.

Type: The following new species.

SYNTHESIA FUCOIDES, sp. nov.

A yellowish pilose fly of a humble-bee appearance, not very different from some species of *Villa*, but at once distinguished from them on account of its well developed pulvilli.

Type ♂ and type ♀, a single couple of not well-preserved specimens from Namaqualand, Springbok, November, 1890 (R. M. Lightfoot).

♂, ♀. Length of the body 8.5–10 mm.; of the wing 8–9 mm. Head yellowish black at vertex and on the occiput; it is densely clothed with a short, yellowish, equal pubescence; on the sides of the occiput, near the eyes, the pubescence is more scaly and more yellow, and on frons and face it is more erect and of a more golden colour, chiefly on the lower part of the face. Antennae with the 2 basal joints red and the third black with a red base. Proboscis dark reddish above and black with yellowish hairs. Thorax black on the back, reddish on the humeral, calli, on the postalar calli and on the pleurae; it is densely clothed with a short, yellowish pubescence, which on the pleurae is longer and more erect, forming dense tufts on the propleurae, on the notopleural line, on the mesopleurae, and on the upper part of metapleurae. Scutellum reddish with a black base, clothed like the back of thorax. Halteres and squamulae whitish. Abdomen reddish, the segments from the 1st to the 4th with a broad, black, transverse basal band that does not reach the sides and decreases in size from the basal to the 4th segment: it is clothed with dense pale yellowish hairs which are longer and paler at the sides near the base; genitalia reddish yellow; spines of the ovipositor red; venter wholly reddish, with a narrow whitish hind border of the segments and with a short yellow pubescence. Legs entirely of a pale reddish-yellow colour from the coxae to the end of the tarsi, and clothed with a pale yellowish, scaly pubescence; spines and spicules black; pulvilli yellowish; claws red, with black tips. Wings hyaline, with the basal fore half infuscated to the end of the subcostal cell and to the base of the first submarginal, of the first posterior and of the discoidal cells; this infuscation is darker towards the middle, but is not sharply defined at the hind border. Veins reddish, with fuscous ends; ambient vein black; basal hook yellow; basal comb with black bristles, but clothed with a yellowish tomentum; axillary lobe hyaline; alula yellowish.

THYRIDANTHRAX, Osten Sacken (1886).

This genus is taken here in a wider sense for the reception of those species of *Anthrax* (*auctorum*) which have smooth front tibiae, rather long proboscis, conical and prominent third antennal joint and often a conical face. The wings have usually an extended pattern, but they may also be completely hyaline. The species are as follows:

- 1 (8). Apical cross-vein of the discoidal cell straight; head, antennae and palpi entirely black; discal cross-vein placed near the base of the discoidal cell, wings never fenestrate.
- 2 (5). Wings entirely hyaline, only narrowly yellowish or blackish at the base and in the subcostal cell.
- 3 (4). Wings with pale yellowish base; the attenuated part of the third antennal joint rather thick *leucoproctus*, Loew.
- 4 (3). Wings with blackish base and blackish subcostal cell; styliiform part of the third antennal joint very thin *linea*, Loew.
- 5 (2). Wings with a rather extended brown or blackish pattern, filling out the base of the second basal cell and the base of the anal cell.
- 6 (7). First posterior cell distinctly narrowed at end; discal cross-vein placed near the middle of the discoidal cell; third posterior cell long and with an acute base *abruptus*, Loew.
- 7 (6). First posterior cell not narrowed at end; discal cross-vein near the base of the discoidal cell; third posterior cell shorter and with an obtuse base *lugens*, Loew.
- 8 (1). Apical cross-vein of the discoidal cell S-shaped; head, antennae and palpi mainly or wholly yellow; discal cross-vein on or after the middle of the discoidal cell; wings fenestrate, viz. with hyaline spots on cross-veins and bifurcations.
- 9 (10). Two submarginal cells only, as usual; wings very broadly yellowish at base, the brown fenestrate pattern being reduced to a less defined, not broad band on the middle of the wing; species of small size and of a paler colour *calochromatus*, sp. nov.
- 10 (9). Three submarginal cells; wings with more than the basal half filled with a brown extended pattern, and very narrowly or not at all yellowish at the base; species of large size and darker colour. *ternarius*, Bezzi.

THYRIDANTHRAX FLAMMIGER, Walker (1849).

Distinct by the conical face, the short third posterior cell, the infuscated costal cell and the middle cross-vein margined with fuscous.

Of this West African species of the group *ajfer* there are 2 specimens from M'Fongosi, Zululand (W. E. Jones).

THYRIDANTHRAX LEUCOPROCTUS, Loew (1860).

A small species, distinct owing to its wholly hyaline wings, which are only a little pale yellowish near the base.

Originally described from the Cape, and not recorded subsequently.

A single female specimen from Klerksdorp, Transvaal, December, 1890.

In the first example the contact between the third posterior and the discoidal cell is rather straight and about twice as long as that

between the fourth posterior and the same cell; the first posterior cell is not narrowed at end.

Another example from Salisbury, S. Rhodesia.

THYRIDANTHRAX LINEA, Loew (1860).

Allied to the preceding species, but easily distinguished by the wings being blackish at the base and along the subcostal cell. Originally described from Caffraria, but, as it seems, widely spread over the Ethiopian region. There are in the collection two female specimens on the same pin, without precise locality, and another from East London, Cape (R. M. Lightfoot).

THYRIDANTHRAX ABRUPTUS, Loew (1860).

Dipteren-Fauna Süd-Afrikas, p. 219, pl. ii, fig. 20.

A medium-sized species, distinguished by the broad blackish marking on the wings and by the different neurulation.

Rather widely spread over the Ethiopian region, and common in South Africa, from where it was originally described. In Northern Rhodesia this species has been bred from puparia of *Glossina morsitans*. There are numerous specimens of both sexes from M'Fongosi, Zululand, March, 1914 (W. E. Jones); from Hex River (Cape), January, 1886 (L. Péringuey); from Bushmanland, Jackal's Water (Cape), October, 1911 (R. M. Lightfoot); from Dunbrody, Uitenhage (Cape), March, 1912 (J. O'Neil); from O'Okiep, Namaqualand (Cape), October, 1895 (L. Péringuey).

In the present species the contact of the third posterior with the discoidal cell is strongly sinuous, and three or four times longer than that of the fourth in the same cell.

THYRIDANTHRAX TRANSIENS, Bezzi.

A small species closely allied to *abruptus*, but distinct by the more extended black pattern of wings, the base of the 4th posterior cell and more than the half of the anal cell being also blackened. Originally described in my work of the Bombylidae of the British Museum from Nyassaland, there is a specimen from Salisbury, S. Rhodesia, 1917.

THYRIDANTHRAX LUGENS, Loew (1860).

Closely allied to the preceding, but distinguished by its smaller size, less intensive and somewhat different wing pattern, and a different neuration, which agrees with that of *leucoproctus* and *linea*.

This South African species seems to be widely spread over the region; but can be easily mistaken for *abruptus* if attention is not given to the different venation; the distinctive character, the wing pattern, as established by Loew, is subject to some variation.

The species seems to be rarer than the preceding; in the collection there are only two specimens from the Hex River (Cape), November, 1882 (L. Péringuey), and from Klipfontein, Namaqualand (Cape), November, 1885, from the same collector.

The contact of the third posterior with the discoidal cell is almost straight and only a little longer than that of the fourth.

THYRIDANTHRAX CALOCHROMATUS, sp. nov., ♂.

An elegant species of the *fenestratus* group, distinguished by the very reduced dark markings of the wings and by the mainly yellow wing-veins.

Type ♂. A single specimen from the Cape, without precise locality, determined by Bigot as *Anthrax calochromatus* Big., but never published; the name is here retained. The species is closely allied to *T. macquarti*, Bezzi, but the wing pattern is more reduced, even more than in *T. elegans* or in *T. polyphemus*.

Length of body 9 mm.; of wing 9 mm.; of wing spread 20 mm. Head black, with the anterior part of the frons and the whole face of a yellowish red colour. Occiput moderately shiny, with scarce greyish hairs above and with white scales at the eye borders; central fringe pale yellowish; postvertical furrow less marked. Eyes with the upper areolets not distinctly enlarged, the indentation faintly pronounced and the bisecting line very short and less distinct. Frons at vertex twice and more as broad as the less prominent, brownish-coloured ocellar tubercle; it is clothed with black hairs, which become pale yellowish on the red part, and with whitish scales; face with white hairs on the sides and near the eyes and in the middle with whitish scales; it is rather conical in shape. Antennae with the two basal joints yellow, the first with whitish hairs and above with a few black ones; third joint wanting in the type. Genae rather broad, black front, yellow behind like the mouth borders; proboscis black, as long as the mouth, with a yellow basal ring, palpi yellow- and whitish-haired. Thorax black, rather shining, with sparse yellow scales and with rather long yellowish hairs in front and on the sides; bristles

yellowish; pleurae black, grey-dusted, reddish along the sutures, with whitish hairs and with white scales; metapleural tuft whitish. Scutellum red, narrowly black at the base, with yellowish scales and yellow bristles at the hind border. Squamae yellowish with white fringe; halteres yellow with whitish knob. Abdomen red, with the first segment black and with a broad median black spot on the second, a smaller one on the 3rd and a very small one on the 4th; it is clothed with pale yellowish scales, but on the apical half of the 2nd and on the base of the 5th segment the scales are black; it seems that the *perspicillaris*-pattern is white and well developed; the hairs of the sides are whitish and long near the base, whitish and short on the remainder, but there are no black hairs. Venter red with black base, white scales and whitish hairs; genitalia red, small, asymmetrically placed. Legs black, with yellow trochanters, tibiae and base of tarsi; the femora are only narrowly yellow at end, their scales are whitish and the scarce hairs are whitish like those of the coxae; spines black, middle femora with one very long one, hind femora with six rather short; front tibiae smooth, the others with rather long and numerous spicules; front tarsi very short, slenderly pilose, with very small claws; claws black. Wings whitish hyaline, with a broad pale yellowish base and a brown, fenestrate, median band; the brown band is thus reduced to some dark spots on the sides of the three fenestrae and to an ovate spot near the middle of the anal cell; second basal cell almost entirely yellowish; veins yellow, only a little darkened at the end; basal comb with black bristles, but densely clothed with yellow scales; alula pale yellowish, with whitish fringe; axillary lobe short and broad, greyish hyaline. Second longitudinal vein very short, with a well-developed terminal loop; discal cross-vein long and oblique, placed at about the middle of the discoidal cell; first posterior cell narrowed at the end; discoidal cell narrow, very acute outwards, its apical cross-vein 5-shaped and placed parallel to the hind border of the wing; third posterior cell very long, its contact with the discoidal cell more than ten times as long as that of the fourth posterior with the same cell; strongly looped at the base; anal cell rather broadly open; second basal cell as long as the discoidal cell and at end broader than the cell. Upper branch of the cubital fork regularly curved in the middle, rather flat at the base and without appendix.

THYRIDANTHRAX TERNARIUS, Bezzi.

Distinguished from all its congeneric species here described by the regular presence of 3 submarginal cells, and by the very extended dark pattern of the wings.

This species is widely spread over all the Ethiopian region, and will be described by me in a paper on the Bombyliidae of the British Museum. Notwithstanding the 3 submarginal cells it cannot be placed in *Exoprosopa* owing to the different shape of the third antennal joint: in general pattern and colouring it is similar to the species of the *fenestratus*-group, to which it belongs undoubtedly. I suspect that the *Anthrax caffer* of Wiedemann, placed in *Exoprosopa* by the authors, may be the same as the present species.

A female specimen from Bushmanland, Jackal's Water (Cape) (R. M. Lightfoot); another female from Barberton, Transvaal, April, 1911 (H. Edwards); and a third female from Klipfontein, Namaqualand (Cape), November, 1885 (L. Péringuey), labelled by Bigot as *Anthrax pyrroproctus*—a name, however, which has never been published.

THYRIDANTHRAX LAETUS, Loew (1860).

Closely allied to *T. ternarius*, but distinguished by the wholly reddish legs and by the distinctly infuscated end of the discoidal cell. A female specimen from Damaraland, Narugas, January, 1919 (R. M. Lightfoot); Otjivarongo, January, 1920 (R. W. E. Tucker).

LITORRHYNCHUS, Macquart (1840).

Of this typical and very numerous Ethiopian genus there are in the collection only a few species, which may be distinguished as follows:

- 1 (2). Squamae black and black fringed; anal cell narrowly hyaline at end; species of large size, measuring 16–18 mm. in length. *maurus*, Thunb.
- 2 (1). Squamae pale brown or yellowish, with yellowish or white fringe; anal cell more broadly hyaline at end; species of smaller size, only 10–13 mm. in length.
- 3 (4). Marginal cell hyaline at end *tollini*, Loew.
- 4 (3). Marginal cell filled out with brown to the end, and even a little beyond *argyrolepis*, Bezzi.

LITORRHYNCHUS MAURUS, Thunberg.

Nov. Act. Ups., ix, p. 73, 1827, pl. i, fig. 11.

A species of great size, with a fringe of bright red hairs in front and on the sides of thorax.

Originally described from the Cape by Thunberg as *Tanyglossa*, it

was referred erroneously by Macquart to *Anthrax collaris*, Wied., which is an Indian species, and was described by Loew under the name of *Exoprosopa rostrata*. It seems to be exclusively a South African species, and not at all rare. It ranges from Cape Town to Rhodesia. There is a female specimen from the Transvaal, Barberton, April, 1911 (H. Edwards), in which the anal cell is more broadly hyaline than usual.

LITORRHYNCHUS TOLLINI, Loew (1863).

A species smaller and paler coloured than the preceding one, and usually with a hyaline spot in the middle of the first posterior cell. Dr. Péringuey has bred this species from the mud nest of the ubiquitous wasp *Scelifrons quartinae*, together with the large Ichneumon, *Osprynchotus capensis*, and a Mutillid, *Dolichomutilla sycorax*.

LITORRHYNCHUS ARGYROLEPIS, Bezzi (1912).

Easily distinguished on account of its characteristic wing pattern, with the middle dark band narrowed at end.

Originally described from Nyassaland, there is in the collection a specimen from Potchefstroom, Transvaal (T. Ayres), also from Salisbury (S. Rhodesia) (D. Dods.); Bulawayo (S. Rhodesia) (R. W. E. Tucker).

EXOPROSOPA, Macquart (1840).

This very large genus has been divided by me into a number of subgenera. Those represented in the South African Fauna may be distinguished as follows:

- 1 (4). Discoidal cell before the end below with a strong projecting angle and there provided with an appendage; its terminal vein more or less sinuous, and placed at an angle to the longitudinal axis of the wing.
- 2 (3). Five posterior cells, the fourth being closed and stalked. *Metapenta*, Bezzi, n.
- 3 (2). Only four posterior cells, all open as usual. *Acrodisca*, Bezzi, n.
- 4 (1). Discoidal cell without such a projecting angle; if sometimes dilated, the projection is a rounded one and destitute of appendage.
- 5 (6). The vein between the discoidal and the second posterior cell is long, strongly sinuous, and runs in the same direction as the longitudinal axis of the wing. *Defilippia*, Liroy.
- 6 (5). The above-named vein is short, straight or only slightly sinuous, and placed at an angle or even perpendicularly to the longitudinal axis of the wing. *Exoprosopa*, s. str.

SUBGEN. METAPENTA.

This group is an exclusively Ethiopian one, and the species it includes are chiefly confined to the South; in the present collection there are two species.

EXOPROSOPA (METAPENTA) PENTALA, Macquart (1840).

Closely allied to *reticulata*, Loew, but distinct by the red scutellum and the red legs.

A female specimen from Dunbrody, Uitenhage (Cape); (J. A. O'Neil), February, 1912. Macquart has described the female from the Cape, but the figure of the wing is very misleading; and the species has nothing to do with the Mediterranean *varinerius-pygmalian*, Fabr., which is the type of my new subgenus *Mesoclis*.

The species is very like *M. reticulata*, but is paler; the frons is entirely black, but the face and the first antennal joint are red; thorax with the pleura mostly yellow haired, the metapleural tuft with only a few black bristles; scutellum red with black base. Abdomen black, with the sides of the 2nd and 3rd segment more or less broadly red, or even red with median black spots. Legs entirely red, but tarsi darkened and femora partly black-scaled; front tibiae thin and smooth. Wing pattern and venation as in *reticulata*.

EXOPROSOPA (METAPENTA) CORVINA, Loew (1860).

Near *E. pentala*, but distinguished by the quite black legs and metapleural tuft, and by the almost entirely black wings.

A female specimen from Damaraland, Grootfontein, December, 1918 (R. M. Lightfoot); Otjivarongo, January, 1920 (R. W. E. Tucker).

SUBGEN. ACRODISCA, nov.

This subgenus is also an exclusively Ethiopian one, and the South African species belong nearly all to one of the two groups in which it is divided, viz. the group characterised by the very short or even rudimentary antennal style, and by the shape of the discoidal cell at end, which is almost equal to that noticeable in *Litorrhynchus*.

The species in the collection may be distinguished as follows:

- 1 (4). Wings uniformly infuscated, not broadly hyaline at the apex, never at the hind border.
- 2 (3). Metapleural tuft wholly or for the greater part black; antennal style rudimentary; species of smaller size *fibriatella*, sp. nov.

- 3 (2). Metapleural tuft entirely yellowish; antennal style well developed, but short and stout; species of greater size . . . *offusata*, sp. nov.
- 4 (1). Wings with a dark base and a dark fore border, but hyaline in the remainder, with distinct spots or reticulation.
- 5 (6). The veins at the hind border of the wings are provided with fuscous confluent borders; anal cell entirely infuscated . . . *personata*, sp. nov.
- 6 (5). The veins of the hind border with isolated dark spots; anal cell hyaline at end, with a dark spot before the end . . . *angulata*, Loew.

EXOPROSOPA (ACRODISCA) FIMBRIATELLA, sp. nov., ♀.

A black species of small size, prevalently black-haired, with entirely fuscous wings and with rudimentary antennal style.

Type ♀, a single specimen from Potchefstroom, Transvaal (T. Ayres). The species seems to be closely allied to *umbrosa*, Loew, but is distinguished by the different antennae and by the different shape of the discoidal cell.

Length of body 8-8.5 mm.; of a wing 8.5-9 mm. Occiput black, with pale yellowish central fringe and yellowish scales at the eye borders; postvertical furrow narrow; eyes with faint indentation and a short bisecting line; ocellar tubercle flat and of brownish colour; frons entirely black, rather narrow, with black erect hairs and pale yellowish scales in front; face conical and much prominent, entirely black, clothed, like the frons, with a black tuft on the upper edge; mouth borders yellowish. Antennae with the first joint red, black-haired; the second half as long as the first and black; the third elongate, linear, black, obtuse at end, with a very minute, rudimentary style situated at its upper corner. Proboscis black, as long as the mouth; palpi black, with pale hairs. Thorax entirely black, with black hairs and black scales, and with a stripe of yellowish hairs on the sides; the collar is yellow above, black on the sides and below; the macrochaetae are well developed and black; pleura black-haired, with only a tuft of yellow hairs on upper border of the mesopleura; metapleural tuft entirely black; sternopleura reddish above. Squamae blackish brown, with a dark fringe; halteres black, with paler knob. Scutellum red, with black base, black scales and black bristles. Abdomen black, narrowly reddish on the sides of the 2nd and 3rd segment; it is clothed for the greater part by black scales, but the base of the second segment has a narrow complete band of white scales; sides of other segment with some white scales and with yellow scales at the hind border. First segment clothed with erect yellowish hairs, which form a characteristic complete fringe; all the sides,

except those of the first segment, with black short hairs and black scales; spines of ovipositor dark reddish; venter black, with yellow scales and black hairs. Legs entirely black, with black hairs and partly black, partly yellowish scales on the femora; front pair less abbreviated than in the allied species, with the tibiae rather slender and with minute, less distinct spicules; the tarsi rather long and with the usual pubescence; bristles black and long, 2 on middle femora and a complete row on hind femora; claws black, with acute tooth. Wings entirely and equally blackened, with black basal hook and black basal comb; the black clouds at the usual places are very faintly indicated; praediscoidal spot whitish, small; alula narrow, blackened, with a long, dark brown fringe, like the base of the axillary lobe. Venation typical for the group; discal cross-vein before the middle of the discoidal cell, the second longitudinal vein originating before it; first posterior cell a little broader than the anal cell; second posterior cell a little broader than the third, the vein between them bent forwards; third posterior cell a little shorter than the fourth. Apical cross-vein of the discoidal cell very strongly S-shaped, and placed horizontally, the discoidal cell being as in *Litorrhynchus* very narrow and elongate.

EXOPROSOPA (ACRODISCA) OFFUSCATA, sp. nov., ♂, ♀.

Allied to the preceding, but of greater size and with yellow legs and with entirely yellowish-haired metapleurae. Some specimens from Matjesfontein (Cape), November, 1910; Laingsburg (Cape), November, 1910; Springbok, November, 1890; Spektakel, Namaqualand (Cape), October, 1890 (R. M. Lightfoot); O'Okiep, Namaqualand (L. Péringuey), October, 1885, labelled by Bigot "*Exoprosopa melania*," Big.—a name which has never been published. Length of body 12–13 mm.; of a wing 14–16 mm.; of wing spread 31–35 mm. Occiput black, with whitish central fringe and yellowish scales which are whitish below the indentation at the eye borders; ocellar tubercle very small and flat, black: frons of about equal breadth in both sexes, shining black, red above the antennae, clothed with black erect hairs and with whitish scales; face conical, very prominent, red, with a more or less broad black spot in the middle underneath, clothed like the frons and with a dense black tuft at the upper mouth edge; mouth borders yellowish. Antennae with the first joint red and black-haired; second joint much shorter, globular, dark reddish; third joint black, elongate, conical, gradually tapering in a rather thin point with a very short and stout style. Proboscis black, as long as the mouth;

palpi black, dark haired. Thorax black, with reddish postalar calli; it is clothed on the back with black hairs and yellowish scales, and shows a stripe of whitish hairs on each side; the macrochaetae are well developed, black; collar with yellow hairs above and below, Pleurae grey-dusted, reddish below, with yellow hairs and some black ones on the middle of the mesopleura and a few black bristles on the pteropleura; metapleura entirely yellowish-haired; sternopleura with a patch of silvery scales. Scutellum red, with black and black-scaled base, with yellowish scales behind and on the sides, and with black bristles. Squamae brownish black, with yellowish or whitish fringe; plumula whitish; halteres black with paler knob. Abdomen elongate, with parallel sides, obtuse at the end, flattened, black, with less developed red spots on the sides of the 2nd and 3rd segment. The middle and the base of the segments are clothed with black scales, while those of the hind border are yellowish; in addition, on the base of 2nd segment and on sides of 3rd and 4th there are bands of whitish scales; the sides have short black hairs, only those of the 2 first segments being whitish. Male genitalia black, yellow-haired; spines of the ovipositor long, straight, black; venter either entirely red, or with more or less developed basal black bands on the segments, clothed with white scales, and with white hairs at base, black at end. Legs yellow, the tarsi and the hind tibiae being infusate at apex; those of the front pair are much abbreviated, coxae with whitish hairs at the base and with black ones at the end, the tibiae are very thick and short, with well developed spicules, the tarsi are very short, with short black pubescence; femora with yellowish scales; spines black; on the front pair are some short ones, on the middle pair 3-4, on the hind pair a complete row; claws black, with long acute tooth. Wings long and broad, but narrow at base, the alula being small; the basal hook and the small comb are black; the latter is clothed with yellow scales. Wings wholly and equally blackened, with faint violaceous reflexions and less distinct pale spots in the centre of the discoidal, submarginal and posterior cells, which in some specimens are more distinct than in others, making the wings appear reticulate. There are no distinct darker clouds at the usual places. The alula is entirely black and with blackish long fringe, even on the base of the axillary lobe. Venation normal for the group; discal cross-vein placed before the middle of the discoidal cell; apical cross-vein of the discoidal cell very V-shaped and placed horizontally, the cell therefore shaped as in *Litorrhynchus*; first posterior cell a little broader than the anal cell, second only a little narrower than the third, third very long. Praediscoidal spot small and greyish.

EXOPROSOPA (ACRODISCA) PERSONATA, sp. nov., ♂, ♀.

A small black species allied to *angulata*, but distinguished by the more broadly infusate wings, which are reticulate and not spotted along the hind border.

Type ♂, and an additional specimen of the same sex from Bushmanland, Jaekal's Water (Cape), October, 1911 (R. M. Lightfoot).

Type ♀, a single specimen from Tulbagh (Cape), November, 1910 (R. M. Lightfoot).

Length of body 7-9 mm.; of a wing 8-10 mm.; the ♀ is of greater size, measuring 11 and 12 mm. respectively.

Head as in the preceding species, but the frons and face is entirely black in the male and red in the female, with broad black base and spot; basal joints of the antennae blackish in the male and red in the female, the third joint black, conical, elongate, obtuse at apex, with a very short and stout style. Thorax entirely black, clothed like the preceding, but with the lateral hairs more white; scutellum black, with red hind border, broader in the female. Squamae and halteres as in the preceding. Abdomen entirely black or with very small red spots on the sides of 2nd segment in the female; it is clothed with black scales on the middle and base of the segments, and with yellowish ones on the sides and hind border. On the base of the 2nd segment there is a narrow transverse band of whitish scales and another abbreviated one on the sides of 3rd; the sides have whitish hairs on the two basal segments, black intermingled with black scales on the remainder. Male genitalia black; spines of the ovipositor black, thin and straight. Venter entirely black in the male, with broad, red hind borders on the segments in the female, clothed with white scales and with pale hairs. Legs dark reddish, with black hind tibiae and tarsi; front coxae with whitish hairs and femora with whitish scales; front pair very abbreviated, with the tibiae short and stout and with less developed spicules, and with the tarsi very short and thick, shortly pubescent; middle femora with 2-3, hind femora with 3-4 spines in the male and a complete row in the female; claws black, with long acute tooth. Wings as in the preceding species, with more developed clear spots in the cells, even in the discal; the apex is quite hyaline, but all the veins at hind border and the cross-vein of the discoidal cell have broad, partly confluent dark borders, making the wing appear as if reticulate; anal cell darkened to the end; praediscoidal spot small, whitish. The basal hook is black; the comb is small, black, with whitish or yellowish scales; alula black, with long, blackish fringe extended on the base of the axillary lobe. Venation as in the preceding, but the first posterior cell is usually a little more broadly open.

EXOPROSOPA (ACRODISCA) ANGULATA, Loew (1860).

Dipteren-Fauna Süd-Afrikas, p. 242, pl. ii, fig. 39.

Distinct from all the preceding species on account of the rounded dark spots before the ends of the veins along the hind border of the wings.

Originally described from the Cape from a female example, and subsequently recorded from Cape Town by Miss Ricardo, there is in the collection a male from Bushmanland, Een Riet (Cape), October, 1911 (R. M. Lightfoot).

The hitherto undescribed male is very like the female and has the frons of about the same breadth; the genitalia are red, yellowish-haired. In this species the claws are black, with reddish base, and have an acute tooth; the front legs are of the usual structure, the tibiae being provided with well-developed spicules and the tarsi being pubescent.

SUBGEN. DEFILIPPIA, Lioy (1864).

The species of the present subgenus are rather numerous in the Ethiopian fauna; they are recognised chiefly on account of the shape of the discoidal cell and of its terminal vein, and have usually a much developed wing pattern; but the distinction from some species of *Exoprosopa* s. str. is not always easy. Of the various groups of species belonging here, only two seem to be represented in South Africa, viz. the *venosa*-group, which is the more important, and the *grandis*-group.

The species in the collection may be distinguished as follows:

- 1 (10). Second longitudinal vein with a double, deep, truncate loop; at end marginal cross-vein strongly curved, and much retreating; smaller species, with narrow, much variegated or wholly infuscated wings.
- 2 (3). Wings petiolate, equally darkened, without clearer parts at end or at hind border, but with distinct darker spots on cross-veins and bifurcations; fourth vein with some isolated, darker, rounded spots.
neurospila, sp. nov.
- 3 (2). Wings not distinctly petiolate, and with clear apex and clear hind margin, reticulate or spotted; fourth vein never with isolated dark spots in the centre.
- 4 (7). The veins at end and at hind margin of wings have broad fuscous borders (wings reticulate).
- 5 (6). Base of antennae, scutellum, sides of abdomen and legs reddish-yellow; pleura with predominant yellowish hairs; wings less darkened *venosa*, Wied.
- 6 (5). Antennae, scutellum, abdomen and legs entirely black; pleurae wholly black-haired; wings more blackened . . . *nigrovenosa*, Bezzi.

- 7 (4). Wings spotted, viz. at apex and at hind border with fuscous spots, which are sometimes partly confluent.
- 8 (9). Scutellum black; third antennal joint short, broad at base and quickly attenuated in a short styliform part, which bears a style as long as the joint itself; hind border of the veins with black spots before their ends *maculosa*, Wied.
- 9 (8). Scutellum red; third antennal joint elongate conical, with a very short terminal style; veins of the hind border in part destitute of spots *maculifera*, sp. nov.
- 10 (1). Second vein at end with simple, flat, acute loop; marginal cross-vein less curved and less retreating; species more robust, with broad-banded wings.
- 11 (12). Hind tibiae densely fringed on the outer side; occiput red; middle band of wings simple and reaching the hind border; apex of wing not spotted *strenua*, Loew.
- 12 (11). Hind tibiae with the usual row of spines; occiput black; middle band of wings divided into two parts posteriorly, but reaching the hind border; apex of wing spotted *hirtipes*, Loew.

EXOPROSOPA (DEFILIPPIA) NEUROSPILA, sp. nov., ♂.

A narrow, elongate species with long, equally infuscated, black-spotted wings bearing spots along the fourth longitudinal vein.

Type ♂, a single specimen from M'Fongosi, Zululand, February, 1914 (W. E. Jones).

Length of body 10 mm. Occiput black, with yellowish scales and whitish central fringe; postvertical furrow narrow and not broadened behind; eyes with deep indentation and long bisecting line; ocellar tubercle reddish brown; frons deep black, narrow at vertex but very broad at the insertion of the antennae, with rather long black erect hairs and yellowish scales; face conically prominent, red, with a black spot on each side, with pale yellowish scales, yellow hairs on sides, and a fringe of black hairs at the mouth borders, forming a dense tuft at the end; mouth borders pale yellowish. Antennae with the two basal joints red, black haired, the first more than twice as long as the globular second joint; third joint wanting in the type. Proboscis black, a little projecting; palpi dark yellowish, pale-haired. Thorax deep black, the postalar cells a little reddish, clothed with short black hairs and with golden yellow scales, with a narrow stripe of yellow hairs on each side and with well-developed black bristles; collar entirely yellow; pleurae black, grey-dusted, red along the sutures and behind, with wholly yellow hairs; metapleural tuft yellow; sternopleura with yellow hairs and yellow scales. Scutellum red with black base, clothed like the thorax. Squamae dirty yellowish, with whitish fringe; plumula yellow; halteres pale brownish, with a lighter knob.

Abdomen narrow and elongate, with parallel sides, red, the first segment and a broad middle longitudinal stripe black; it is clothed with black and yellow scales, and on the sides has short hairs which are pale yellowish on the first and the fore part of the second and third segments, black on the rest. Genitalia red and black, yellow-haired; venter pale red, with whitish scales and long pale yellowish hairs at the base and in the centre. Legs yellow, the coxae and tarsi black at tip; they are clothed with yellow and black scales, and have black bristles; coxae with yellow hairs; front pair less abbreviated, with smooth tibiae; middle femora with 1-2, hind femora with 4-5 spines; claws black, with a short tooth. Wings rather broad, uniformly but not intensively infuscated; the rounded dark spots are placed on the base of the upper branch of the cubital fork, on the discal cross-vein, on the base of second longitudinal vein, on the root of the fifth vein, on the fourth vein in the centre of the segment between the root of the fifth and discal cross-veins, on the upper exterior angle of the discoidal cell, before the apex of the fourth vein, on the extreme inner base of the 2nd and 3rd posterior cells and on the base of the 4th posterior cell. Hook black; comb narrow, reddish, with black bristles; veins dark red, darkened outwardly; alula short, transverse, rounded, with dark fringe. Second vein with very deep double loop at end; marginal cross-vein S-shaped and much retreating; upper branch of cubital fork much retreating; discal cross-vein placed on the middle of the long and very acute discoidal cell. First posterior cell broadly open, second long and narrower than the third at end, its basal vein strongly V-shaped, but shorter than the basal vein of the third cell, which is strongly bent basally; third posterior cell very long, but considerably shorter than the 4th at the base; anal cell broadly open; axillary lobe rather broad and long.

EXOPROSOPA (DEFILIPPIA) VENOSA, Wiedemann (1819).

Easily distinguishable by the wings being hyaline but strongly reticulate in their apical and posterior part.

This exclusively South African species is represented by a male specimen from Cape Town, December, 1884 (T. D. Butler).

EXOPROSOPA (DEFILIPPIA) NIGROVENOSA, Bezzi, sp. nov.

Allied to the preceding, but entirely black and with black-haired pleurae.

Described in my general work; there is a female from Durban, April, 1913 (W. Haygarth). The present species is possibly the same as *E. venosa*, Macquart, nec Wiedemann.

EXOPROSOPA (DEFILIPPIA) MACULOSA, Wiedemann (1819).

Distinguished by the very characteristic form of the third antennal joint, and by the numerous dark spots of the apical and posterior part of the wings. Likewise an exclusively South African form, of which there is a female from Cape Town, 1884, and a male from Tulbagh (Cape), November, 1910 (R. M. Lightfoot).

EXOPROSOPA (DEFILIPPIA) MACULIFERA, sp. nov., ♀.

Allied to the preceding, but distinguished by the elongate conical third antennal joint, and by the much less numerous dark spots on wings.

Type ♀, a single specimen from the Cape, without precise locality.

Length of body 10 mm.; of a wing 10 mm. Occiput black, grey-dusted, with whitish scales near the eyes; postvertical furrow narrow, not dilated behind; eyes with deep indentation; ocellar tubercle brownish; frons narrow, black, rather shining, with black erect hairs, and yellowish scales. Face much conically prominent, entirely red, clothed like the frons and with a dense black tuft at the upper edge of the mouth; mouth borders pale yellowish. Antennae with the first joint red, black-haired; the second brown, globular; the third black, narrow at base, almost linear, less acute at end, with a short style, which is much shorter than the half of the joint. Proboscis black, a little projecting; palpi thin, blackish, pale-haired. Thorax black, with the humeral and postalar knobs reddish, clothed with black hairs, yellow scales and yellowish hairs on each side; macrochaetae black; collar pale yellowish; pleurae grey-dusted, broadly reddish at the sutures, with yellowish hairs and some black ones in the centre of the mesopleura and black bristles on the pteropleura; metapleural tuft entirely yellow; sternopleura with white scales and yellow hairs.

Scutellum red, clothed like the thorax with black hairs at the hind border. Squamae yellowish, with whitish fringe; plumula white; halteres brown with whitish knob. Abdomen black, rather broadly red on the sides of all the segments, except the first; it is clothed with black and yellowish scales, which form some biarcuate bands, like those of *E. reticulata*, on the segments 2-6. Base of 2nd and sides of 3rd segment with broad, pale yellowish band; sides of first, fore border of 2nd and 3rd segment with whitish hairs, the rest with short black ones. Spines of ovipositor yellow. Venter entirely red, with whitish scales and whitish hairs. Legs entirely yellow, with

whitish scales, only the tarsi blackened at end; front pair with the coxae clothed with long whitish hairs and some black bristles; it is moderately abbreviated; the tibiae are thin and smooth and the tarsi minutely pubescent; spines of femora black, long, the middle pair with 2, the hind pair with 5; claws red, with black tip, and short but acute basal tooth. Wings with a black basal hook and narrow, reddish, black bristly comb; alula greyish, narrow, transverse, with dark fringe. The venation is the same as in *maculosa*, but the marginal cross-vein shows a stump in the first submarginal cell before its upper end.

The markings are the same, but much less dark and more restricted, the discoidal cell being almost entirely hyaline, and the spots at apex being narrower and more separated; moreover, along the hind margin the dark spots at the end of 4th and 5th vein are completely wanting, the one at the end of the vein between the 2nd and 3rd posterior cells is very faint, and even the spot at the end of the anal cell is less developed. The apical cross-vein of the discoidal cell is not entirely margined with fuscous, but has only two rounded spots at the two ends.

EXOPROSOPA (DEFILIPPIA) STRENUA, Loew (1860).

A beautiful species of great size, very distinct from any other here recorded on account of its red occiput and of the broad, oblique median dark band of the wings.

Originally described from a female example from the Cape and never recorded subsequently. Dunbrody, Uitenhage (Cape), 1899 (J. A. O'Neil).

To the good original description the following may be added: Postvertical furrow narrow, but bilobate behind; the indentation of eyes is flat but the bisecting line is long; vertex less separated from the occiput, with no distinct space or furrow; the borders of the occipital cavity are black; even the third antennal joint is reddish; proboscis black, little projecting; palpi dark yellowish, pale-haired. Mesopleura on middle with black, bristly hairs; sternopleura with yellow hairs; metapleural tuft entirely yellow. Squamae brownish red, with double fringe, blackish above and yellowish below. Spines of the ovipositor shining red. Front legs much abbreviated, the tibiae being short and thick, smooth, and the tarsi stout, finely pubescent; middle femora with 5-6, hind femora with a complete row of spines; hind tibiae with a dense outer fringe of short, black, bristly hairs among which the discal spines are concealed; claws black, with a short but acute tooth. Alula transverse but rounded,

yellowish, with dark fringe; basal hook black, long, gently curved; comb very broad, reddish, yellow-tomentose, with short black bristles. Marginal cross-vein less retreating; discoidal cell very acute outwardly, but its terminal vein considerably shorter than the vein at the base of the third posterior cell; second basal cell broader at end than the discoidal one; axillary lobe very broad and short; anal cell narrowly open.

EXOPROSOPA (DEFILIPPIA) HIRTIPES, Loew (1860).

Dipteren-Fauna Süd-Afrikas i, p. 233, pl. ii, fig. 32, 1860.

A very distinct species on account of its peculiar and rich wing pattern, and the only species here recorded having the second basal cell broadly hyaline.

Not rare in South Africa and found also northward on the East Coast. The ciliate front tarsi are present only in the female. There is a couple of specimens from Dunbrody, Uitenhage (Cape), March, 1903 (J. A. O'Neil).

SUBGEN. PTEROBATES, Bezzi.

This subgenus is easily recognised from all the other subgenera of *Exoprosopa*, s. lat., on account of its broadly feathered hind legs and of its very peculiar wing pattern.

EXOPROSOPA (PTEROBATES) APICALIS, Wiedemann (1821).

Of this old and well-known species there is a specimen from Dunbrody, Cape Colony, 1908 (J. A. O'Neil).

SUBGEN. EXOPROSOPA, sensu stricto.

The species of the present subgenus are very numerous, and not always easy to distinguish from those of the preceding one, especially those with an extended wing pattern. They may be divided in some groups, which at present must be considered as artificial ones, but help in the determination, as can be seen from the following table:

- 1 (40). Wings not wholly hyaline, but with a more or less extended and defined dark pattern.
- 2 (3). Wing-pattern filling up the entire black wing, only the extreme apex being whitish and hyaline (*nemesis*-group) *nemesis*, Fabr.

- 3 (2). Hyaline part of the wings extended as much as, or even more than, the darkened part.
- 4 (27). Wings typically dimidiate, viz. obliquely bordered with fuscous on the anterior half, the posterior one being hyaline with or without dark spots or abbreviated bands.
- 5 (14). Fore dark border of wings with abbreviated bands or projections departing from it and encroaching on the posterior hyaline part, but always without isolated dark spots or infuscations of cross-veins (*seniculus*-group).
- 6 (13). The middle fuscous band of wings is prolonged over the discoidal cell, reaching sometimes the hind border or nearly so.
- 7 (12). The vein between the discoidal and the second posterior cell is long, placed horizontally, nearly V-shaped as in *Dejilippia*.
- 8 (11). Discoidal cell very much dilated at end and with a projecting stump; metapleural tuft mainly black; second posterior cell narrower than the third at end.
- 9 (10). Wing-markings black; middle band rather broad . . . *morosa*, Loew.
- 10 (9). Wing-markings pale brown; middle band very narrow. . . . *ignava*, Loew.
- 11 (8). Discoidal cell not, or less dilated at end and not appendiculate; metapleural tuft yellow; second posterior cell not narrowed at end. . . . *seniculus*, Wied.
- 12 (7). The above-named vein is short and almost straight; discoidal cell not or little dilated at end and not appendiculate; metapleural tuft yellow *elongata*, Bic.
- 13 (6). Middle band rudimentary, reduced to a short projection not reaching beyond the middle of the discoidal cell; this last cell narrow and truncate at end *argentifrons*, Macq.
- 14 (5). Fore dark border of the wings destitute of dark bands or projections proceeding from it; if abbreviated bands are present there are also isolated fuscous spots.
- 15 (22). Wings with distinct isolated dark spots on hind border of apex, even if existing only as a faint infuscation at the upper end of the discoidal cell or the inner end of the second posterior cell.
- 16 (17). Wings with some isolated brown spots in the hyaline apex; terminal vein of discoidal cell short and perpendicular; antennal style rudimentary (*capensis*-group) *capensis*, Wied.
- 17 (16). Wings without isolated dark spots on the hyaline apex, but with a spot on the hind hyaline part (wanting in *dux*); discoidal cell never dilated at end (*heros*-group).
- 18 (19). Legs entirely black *eluta*, Loew.
- 19 (18). Legs red, at least those of the front pair.
- 20 (21). Wings with a broad, distinct, greyish patch at the lower angle of discoidal cell *heros*, Wied.
- 21 (20). Wings without such a patch *dux*, Wied.
- 22 (15). Wings simply dimidiate, without isolated spots at the apex or at the hind border (*dimidiata*-group).
- 23 (24). The vein between the discoidal and the second posterior cell in a long and strongly V shape *sigmoidea*, Bezzi.

- 24 (23). The above-named vein short and straight.
- 25 (26). Metapleural tuft entirely reddish; discoidal cell not dilated at end; basal joints of antennae black; abdomen of male with silvery lateral patches *dimidiata*, Macq.
- 26 (25). Metapleural tuft entirely black; discoidal cell dilated at end and appendiculate; antennae red at base; abdomen not silvery.
dilatata, sp. nov.
- 27 (4). Wings not properly dimidiate, even if the costa is infuscated or striped.
- 28 (37). Abdomen of conical shape, pointed at end, very often red; terminal vein of discoidal cell short, straight, but placed obliquely, and therefore the upper angle of discoidal cell is an acute one (*punctulata*-group).
- 29 (30). Front tibiae distinctly spinulose; wings with a brown fore-border and with dark spots on cross-veins and bifurcations.
punctulata, Macq.
- 30 (29). Front tibiae smooth; wings without such a pattern.
- 31 (34). Wings with a broad brown fore border.
- 32 (33). Dark fore border less intensive and less defined, extending to the 2nd basal cell and on a part of the discoidal cell . . . *parvula*, nom. nov.
- 33 (32). Brown fore border well defined, not extending to the discoidal cell or 2nd basal cell *stannusi*, Bezzi.
- 34 (31). Wings with a narrow, yellowish, or brownish fore-border.
- 35 (36). Basal joints of antennae and legs entirely black; cross-veins infuscated, abdomen red on the sides *inaequalipes*, Loew.
- 36 (35). Basal joints of antennae and legs red; cross-veins less infuscated; abdomen broadly or wholly red *batrachoides*, Bezzi.
- 37 (28). Abdomen not conical and mainly black; terminal vein of discoidal cell straight and perpendicular, its upper angle therefore not acute, the cell being truncate outwardly.
- 38 (39). Wings with broad and well-defined black spots on cross-veins and bifurcations (*balioptera*-group) *balioptera*, Loew.
- 39 (38). Wings not punctate, or only with less defined shading on the cross-veins (*busiris*-group) *luteicosta*, Bezzi.
- 40 (1). Wings entirely hyaline, without any distinct dark pattern (*stupidap*-group) *parvicellula*, sp. nov.

A. GROUP PUSILLA.

This small group, which is made distinct by the presence of hyaline fenestrae in the dark part of the wings, included only the West African species *pusilla*, Macq., and *jacchoides*, Bezzi. A third South African species is now added to it.

EXOPROSOPA (EXOPROSOPA) FORMOSULA, sp. nov.

An elegant species very distinct from all the other South African species of the present subgenus on account of its hyaline fenestrae in the black part of the wings.

Type ♂, a single specimen from Hex River; December, 1884 (L. Péringuey).

♂. Length of the body 7 mm.; of the wing 7 mm.; of the wing-spread 16 mm. Head entirely shining black, but dark reddish brown on the face below and at the hind border of the occiput; the mouth borders are narrowly yellowish. The occiput is denuded in case of the type, but the central fringe is blackish, and at the borders of the eyes, chiefly near the indentation, there is a silvery, scaly tomentum. Frons at vertex as broad as the ocellar tubercle, but quickly broadening beyond the middle; it is clothed with black erect hairs and has short, scattered, silvery hairs on the front half. Face conically produced but blunt, clothed with black hairs and with some silvery, shorter ones. The two basal joints of the antennae are black, the first being clothed with black hairs; the third joint is dark reddish, shortly conical, about as long as the first joint, with a short terminal style. Proboscis as long as the mouth opening, dirty blackish; palpi thin, upturned, dark yellowish. Thorax entirely black, and (when denuded) rather shiny; humeral and post-alar callosities brownish like the greatest part of the pleurae; on the back of the mesonotum there are black hairs and brownish tomentum; the collar is black; the pleurae have black and dark yellowish hairs; all the macrochaetae are black. Scutellum dark brown with a black base, clothed like the back of mesonotum. Squamulae brown with white fringe; plumula white; halteres yellowish. Abdomen shining black, with the segments narrowly brown at hind border; it seems to be clothed with black hairs, and with brownish, scaly tomentum, but at the base, on each side of the two first segments, there is a spot of white scales, clothed with white hairs; the last two segments also seem to have silvery scales at the base. Venter black, with silvery scaly tomentum; genitalia reddish-brown. Legs black, with reddish brown tibiae and tarsi; front pair abbreviated, with smooth tibiae; spines black; claws simple, reddish yellow, with black tips. Wings proportionately short and broad, with a very distinct pattern. At base they are dark yellowish brown to the base of the discoidal cell; an elongate, deep black spot on the second basal cell is very striking, and is placed symmetrically across the basal portion of the fourth longitudinal vein. In the middle the wings are black, the edge going obliquely and sinuously from the end of the auxiliary vein to the end of the anal cell; the discoidal cell is filled up with black to the end, only its upper corner being narrowly hyaline; in the marginal cell the black ends rather obliquely and a little before the upper end of the marginal cross-vein. The apical part of the wings is hyaline and strongly

iridescent. The 2 whitish hyaline fenestrae are rounded and are placed one at the base of the 2nd longitudinal vein and one on the middle cross-vein: they are of about equal size; at the base of the 3rd and of the 4th posterior cell there are less-developed yellowish stripes; at the end of the anal cell there is in addition a rounded, yellowish spot. Basal hook and basal comb black, the latter with a dark greyish tomentum above; veins quite reddish yellow and paler on the hyaline parts of the wing; 2nd longitudinal vein less looped at end and not retreating, originating before the middle cross-vein; marginal cross-vein oblique; upper branch of the cubital fork S-shaped. First posterior cell dilated outwardly, as broad as the 2nd; 3rd broadly truncate at base; 4th broader than the 3rd at end; discoidal cell narrowed in the middle, with the middle cross-vein placed before the centre, and with the terminal cross-vein straight, but set obliquely; anal cell broadly open. Alula yellowish-brown, with a darkish fringe like the base of auxiliary lobe, which is black on its apical half only.

B. GROUP NEMESIS.

EXOPROSOPA (EXOPROSOPA) NEMESIS, Fabricius (1805).

Syst. Antl., 1805, p. 121.

A very distinct species, characterised by the entirely black wings, with a narrow whitish hyaline apex and some shining brownish spots at cross-veins and bifucations.

A specimen from M'Fongosi, Zululand, 1914 (W. E. Jones), and another from Barberton, Transvaal, December, 1911 (H. Edwards).

C. GROUP SENICULUS.

EXOPROSOPA (EXOPROSOPA) MOROSA, Loew (1860).

Dipteren-Fauna Süd-Afrikas, p. 332, pl. ii, fig. 30.

A very characteristic species of great size, distinguished by the abbreviated cross-band of the wings at the end of discoidal cell. Originally described from Caffraria, it is probable that *Littorhyachus hamatus*, Macquart, from the Cape is the present species, chiefly because the length of the proboscis seems to be variable, as observed by Miss Ricardo for the following species. There is a female specimen from Barberton, Transvaal, December, 1911 (H. Edwards).

EXOPROSOPA (EXOPROSOPA) IGNAVA, Loew.

Dipteren-Fauna Süd-Afrikas, p. 232, pl. ii, fig. 31.

Closely allied to the preceding, but distinguished on account of its much paler and less extended wing pattern.

Originally described from the Cape and recorded subsequently from the Transvaal; I have received a specimen from Grahamstown (Cape).

EXOPROSOPA (EXOPROSOPA) SENICULUS, Wiedemann (1828).

If I have interpreted exactly the present species it seems to be a common insect in South Africa, as previously stated by Macquart (who placed it in *Litorrhynchus*); it is easily distinguishable by the ascribed characters given in the table. Some specimens from Van Wyk's Vlei, Carnarvon (Cape) (E. G. Alston), and from Smithfield (Orange Free State) (D. R. Kannemeyer).

EXOPROSOPA (EXOPROSOPA) ELONGATA, Ricardo (1901).

A distinct, middle-sized species, closely allied to the preceding one, but easily recognised by the venation. Originally described from the Transvaal and Namaqualand (Cape), there are in the Museum collection specimens from Howick, Natal, and from M'Fongosi, Zululand, March, 1911 (W. E. Jones).

EXOPROSOPA (EXOPROSOPA) ARGENTIFRONS, Macquart (1855).

Dipt. Exot. Suppl., 5, p. 65, pl. iii, fig. 2.

A pretty species of small size; very distinct from all the others owing to the short, black projection of the fore border of the wings and by the silvery frontal patch.

Described from the Cape and subsequently recorded by me from Western Nyassa; there is a single male specimen from Cape Town (L. Péringuey).

D. GROUP CAPENSIS.

EXOPROSOPA (EXOPROSOPA) CAPENSIS, Wiedemann (1821).

A small-sized, rather aberrant species, distinguished by the rudimentary antennal style, by the spinulose front tibiae and by the characteristic wing pattern.

Wiedemann has described this species from the Cape; it is recorded only by the oldest authors. The species described under the same name by Macquart seems to be a different one, as the antennal style is said to be distinct, but Wiedemann states that the third joint is thicker than usual.

There is in the collection a single specimen from O'Okiep, Namaqualand (Cape) (L. Péringuey), 1905.

Third antennal joint $1\frac{1}{2}$ times as long as the two preceding together, elongate conical, rather linear, not broadened at base and without distinct terminal style. Face conically produced, with dense pale yellowish scales; proboscis not projecting. Thorax with black bristles; pleurae with only yellowish hairs, even on the metapleura; sternopleura with yellowish scales. Scutellum red, with black base and black bristles at the hind border. Squamae pale yellowish, with whitish fringe. Legs entirely yellowish, with whitish scales; front pair much abbreviated, with the tibiae thick and short and beset with distinct spicules, the tarsi shortly pubescent; claws thin, with reddish base and short but acute basal tooth. Wings with small, yellowish or whitish tomentose basal comb; second vein originating at a considerable distance from the discal cross-vein, with not deep but duplicated terminal loop; marginal cross-vein V-shaped, much retreating; first posterior cell narrowed at end, only a little broader than the anal cell; discal cross-vein placed in the middle of the discoidal cell, which is not dilated below at end and has a V-shaped terminal vein, which is, however, less obliquely set; third posterior cell considerably shorter than the fourth at the base. Axillary lobe long and narrow; alula infuscated, and with a darkish fringe.

E. GROUP HEROS.

The species of the present group are often confused, and seem to be peculiar to the South African Fauna; they are closely allied in venation with some species of the following group, but have a much less defined and less dark wing pattern; characteristic also of the group are the isolated dark spots on the hind half of the wing, which are rarely wanting.

EXOPROSOPA (EXOPROSOPA) INFUMATA, Bezzi.

Closely allied with *eluta*, but at once distinguished by its sharply defined wing-pattern and by the posterior half of the wing being distinctly smoky.

Originally described by me from N.W. Rhodesia in my paper on the Bombyliidae of the British Museum, there is a specimen from Salisbury, Arcturus, 1916 (Dr. Melle).

EXOPROSOPA (EXOPROSOPA) ELUTA, Loew (1860).

Dipteren-Fauna Süd-Afrikas, p. 227, pl. ii, fig. 5.

Very closely allied to the following one, but distinguished by the smaller size, by the black legs and by the faint infuscation on the cross-vein dividing the discoidal from the second basal cell.

Stellenbosch (Cape), 1888 (L. Péringuey); Ceres (Cape), Matroosberg, 5000 ft., January, 1917 (R. M. Lightfoot); another example 9 mm. in length from Zululand, M'Fongosi, December, 1914 (W. E. Jones).

EXOPROSOPA (EXOPROSOPA) HEROS, Wiedemann (1819).

A species of great or medium size, distinguished by the broad fuscous patch of the hind half of the wings.

I think that the form described by Loew (Dipt. Sudafrik. p. 334, pl. ii, fig. 33) answers to the variety mentioned by Wiedemann, and I have named it *loeviana*; I think, moreover, that *E. caffra*, Macquart (*nec* Wiedemann) is also the present species, which seems to be very common in South Africa.

There are numerous specimens, varying in length from 10 to 20 mm. Stellenbosch (Cape), 1887 (L. Péringuey); Berg River; Iaingsburg, November, 1910 (R. M. Lightfoot); Hex River, January, 1885, named "*heros*" by Bigot; O'Okiep (Cape), 1885 (L. Péringuey); Barberton, Transvaal, November, 1911 (H. Edwards); Spektakel and Springbok, Namaqualand (Cape), November, 1890 (R. M. Lightfoot); M'Fongosi, Zululand, December, 1911 (W. E. Jones); Otjivarango, Damaraland, January, 1920 (R. W. E. Tucker).

EXOPROSOPA (EXOPROSOPA) DUX, Wiedemann (1828).

Probably only a variety of the preceding, distinguished by the want of the fuscous patch at the hind half of the wing.

Some specimens from Hex River (Cape), December, 1884 (L. Péringuey), and Bushmanland, Henkries (Cape), October, 1911 (R. M. Lightfoot).

F. GROUP DIMIDIATA.

EXOPROSOPA (EXOPROSOPA) SIGMOIDEA, Bezzi (1912).

This species has the venation of *heros*, but without the lower dilatation of the discoidal cell, and the wing pattern as in *dux*, but more intensive and more defined.

Originally described from Western Nyassaland. There are some specimens from Smithfield, 1910, Orange Free State (D. R. Kanne-meyer), and from Dunbrody, Uitenhage (Cape), March, 1912 (J. A. O'Neil).

EXOPROSOPA (EXOPROSOPA) DIMIDIATA, Macquart (1846).

Dipt. Exot. Suppl. i, p. 107, pl. ix, fig. 11.

A species very distinct on account of its wing pattern and of the silvery abdominal pubescence of the male.

Widely spread in South Africa. There are specimens from Natal, Pine Town, 1885 (J. H. Barber), named "*Anthrax dimidiatus*, Macq.," by Bigot; Bechuanaland, junction Crocodile-Marico Rivers, February, 1918 (R. W. E. Tucker); Otjituo, Damaraland, January, 1920 (R. W. E. Tucker).

EXOPROSOPA (EXOPROSOPA) DILATATA, sp. nov., ♂.

A species of large size, distinguished by the prevailing black colour of the thoracical hairs and by the dilatation of the discoidal cell.

This characteristic species seems to be common in South Africa; it is almost certain that the female described by Loew (*l. c.*, p. 226), and which I have previously referred with doubt to my *discriminata*, is the same species. There are in the collection numerous specimens from M'Fongosi, Zululand, February, 1912 (W. E. Jones); Barberton, Transvaal, December, 1911 (H. Edwards); Smithfield, Orange Free State (D. R. Kanne-meyer); Dunbrody, Uitenhage (Cape), 1899 (J. A. O'Neil). I have also received it from Grahamstown.

Length of the body 14-16 mm.; of a wing 14-16 mm. Head black, dark reddish on fore half of frons and on the face, genae and mouth borders; occiput dark grey-dusted, with yellowish central fringe, yellowish ocular stripe, and a deep postvertical furrow; vertex separated from the occiput by a deep depression; eye indentation less pronounced, but bisecting line elongate; frons at vertex more than three times as broad as the dark brown ocellar tubercle, with short,

deep black erect hairs and with golden yellow scales on the reddish part; face conically prominent, with yellow scales and black oral fringe. Antennae with the first joint long, red, black-haired; the second joint globular, reddish brown; the third black, shortly conical, not longer than the first two joints taken together, not broadened at base, its terminal style longer than the half of the joint. Palpi and proboscis black, this last projecting for the length of the labelli. Thorax entirely black, with black hairs and golden yellow tomentum on dorsum; there are no distinct clear stripes on the sides; collar bright yellow above, black on sides and underneath. Notopleural tufts and bristles black; pleurae black-haired, with some golden hairs on upper border of mesopleura and pteropleura; metapleural tuft entirely black; sternopleurae without clear tomentum; scutellum dark reddish, with black base, yellowish hairs and black bristles at the hind border. Squamae dark brown or blackish, with blackish fringe; plumula white; halteres blackish. Abdomen black, narrowly reddish on the sides of the second segment; the dense but not long hairs of the sides are entirely black, except on the sides of the first segment, where they are pale yellowish; tergites clothed with black scales and with a complete band of quite white scales on the base of the 3rd segment, narrow in the middle and broadened towards the sides; on the 6th and 7th segments there is such a band, but it is broadly interrupted in the middle, thus forming 4 ovate spots; genitalia black and black-haired; venter entirely black, with black hairs and scarce scattered whitish scales. Legs with the coxae entirely dark reddish, only the tarsi being blackened; front pair less abbreviated, with smooth tibiae and shortly pubescent tarsi; middle femora with 2-3 hind femora with a complete row of spines; claws black, with a short and acute basal tooth. Wings purely hyaline, with a well-defined, blackish basal pattern; the limit goes regularly from end of the axillary vein, over discal and anal cross-veins, to the middle of the axillary lobe; praediscoidal spot of great size, rounded, greyish. The basal hook is black; the comb is black, broad and short, with reddish dust. Terminal loop of the second longitudinal vein less deep; marginal cross-vein retreating, but almost straight; first posterior cell less narrowed at end, second narrower than the third and the vein between them is curved forwards at end; third posterior cell less short than the fourth at base; discal cross-vein set a little before the middle of the discoidal cell; this cell rather short, broad; the vein dividing it from the third posterior cell is curved below and protrudes in this last cell; the vein between the discoidal and the second posterior cell rather Y-shaped and long; there is a stump in the discoidal cell near

the end of the vein dividing the second from the third posterior cell; axillary lobe short and broad; alula very darkened, with a blackish fringe which is continued on the basal part of the axillary lobe.

G. GROUP PUNCTULATA.

EXOPROSOPA (EXOPROSOPA) PUNCTULATA, Macquart (1840).

Dipt. Exot. II, p. 48, pl. xviii, fig. 2.

An eminently characteristic species, distinct from all its allies on account of the spinulose front tibiae.

Widely spread over the Ethiopian region. Dunbrody, Blue Cliff, Uitenhage (Cape), March 1st, 1912; Cape Town (R. M. Lightfoot), March, 1917; Klipfontein, Namaqualand (Cape), L. Péringuey; M'Fongosi (Zululand), W. E. Jones.

EXOPROSOPA (EXOPROSOPA) PERPULCHRA, Bezzi.

Distinct from the other species of the group on account of its rich wing pattern, consisting of 2 broad fuscous bands, crossing the wing at the two ends of the discoidal cell.

Originally described from Nyassaland, and not hitherto known from South Africa; there is a specimen from Salisbury, S. Rhodesia, January, 1915 (J. O'Neil).

EXOPROSOPA (EXOPROSOPA) PARVULA, Bez., nom. nov.

E. parva, Ricardo (1901), not *parva*, Loew (1869).

Evidently allied to the preceding species, but distinguished by the dark wing pattern, which is destitute of isolated spots, recalling that of the *dimidiata* group.

Originally described from the Transvaal, there is a specimen from Kimberley (Cape) 1892 (L. Péringuey).

A male specimen from Pretoria, Transvaal, November 10th, 1916 (G. A. H. Bedford), has the frons a little broader, the femora black, and the wing pattern more infuscated. In the right wing of this specimen the discoidal cell is exactly divided into two cells by a supernumerary cross-vein, placed in the middle.

EXOPROSOPA (EXOPROSOPA) STANNUSI, Bezzi (1912).

Easily distinguished by its well-defined dark fore border of wings, the second basal cell being, however, almost entirely hyaline. Origin-

ally described from Western Nyassa; female specimens from Bulawayo and Umaruma, S. Rhodesia, October 2nd, 1916 (J. A. O'Neil).

In my original description the scutellum is said to be black, while it is red. The hitherto undescribed female is very much like the male; the spines of the ovipositor are of a shining red colour.

EXOPROSOPA (EXOPROSOPA) INAEQUALIPES, Loew (1852).

A robust species of large size, distinguished from the one following by the entirely black antennae and legs, and by the broadly infuscated cross-veins.

Described by Loew from Mozambique, there is a female specimen also from Inhambane (Mozambique) December 7th, 1912 (K. H. Barnard).

This species is closely allied to *E. major*, Ricardo, from Nyassaland, but is distinguished by the redder abdomen. *E. costalis*, Macquart, belongs also to the present group of species very difficult to identify.

EXOPROSOPA (EXOPROSOPA) BATRACHOIDES, Bezzi (1912).

A species of great size, distinguished by the prevailing red colour of the legs and abdomen.

Originally described from Nyassaland, there are in the collection 2 specimens from Springvale, S. Rhodesia, October 6th, 1912, and also another from S. Rhodesia without exact locality (Oakley), 1910.

The present species seems to be hardly distinguishable from the West African *E. merope*, Wied.

H. GROUP BALIOPTERA.

EXOPROSOPA (EXOPROSOPA) BALIOPTERA, Loew (1860).

Dipteren-Fauna Süd-Afrikas, p. 238, pl. ii, fig. 36.

A black, rather small species, at once distinguishable from any other by its characteristic wing pattern.

Described from the Cape and Caffraria; two examples from the neighbourhood of Durban, Natal (H. W. Bell-Marley), and Durban (Natal), without precise locality.

I. GROUP INERMIS.

EXOPROSOPA (EXOPROSOPA) PEDIFORMIS, Bezzi.

Very distinct from all the other South African species on account of its reddish body, lacking all the macrochaetae, of its rounded face, of its non-spinous femora, and of its specially shaped discoidal cell in the yellowish grey wings.

Originally described from Nyassaland in my work on the Bombyliidae of the British Museum, there is a male specimen from M'Fongosi, Zululand, March, 1917 (W. E. Jones).

J. GROUP BUSIRIS.

EXOPROSOPA (EXOPROSOPA) LUTEICOSTA, Bezzi, sp. nov.

A species resembling in general facies *E. heros* or *dux*, but more allied to *major-batrachoides*, and having the venation of the present group, in which it may be provisionally placed.

A male from Ovamboland, 1890-91 (E. W. Eriksson), and 2 specimens from Grahamstown (Cape) in my collection; there are some other doubtful specimens from Touws River, Cape, and Potchefstroom, Transvaal (T. Ayres).

I described the present species from East Africa, and the South African specimens agree well with the types, but they are of larger size and have more extended and darker wing-pattern. *E. costalis*, Macquart, is perhaps allied, but it is said to have a venation like that of *E. Robertsi*.

Length of body 16-19 mm.; of wing 17-20 mm. Head black; the fore half of frons, the face and the mouth borders are of a pale reddish colour; occiput grey-dusted, with pale yellowish central fringe and whitish ocular stripe; postvertical furrow narrow; vertex depressed between the eyes; frons $\frac{1}{5}$ of the head at vertex and $\frac{1}{3}$ at the antennae, the upper half clothed with blackish erect hairs, the frontal half with dense yellowish scales and pale yellowish hairs; face bluntly convex, not much produced, the sides with shining white scales and whitish hairs at the mouth borders. Antennae with the first joint short, dark brown, yellowish-haired; third joint black, elongate, with a short terminal style; palpi and proboscis blackish, the latter a little projecting. Thorax black, with yellowish dust on the back, which shows 3 longitudinal stripes; collar entirely yellowish like the hairs on the sides; bristles black; pleurae entirely whitish-haired, even on the metapleura. Scutellum red, with a narrow black base, yellowish-dusted, and with numerous black bristles at the hind border. Squamae brownish yellow with a whitish fringe; halteres brownish, with paler knob. Abdomen broad and obtuse at end, entirely black; the hairs on the sides of the first segment whitish, those on the others alternately blackish and yellowish; the upper side is clothed with black scales and has cross-bands of white scales complete on the 2nd sides of the 3rd and 4th and also entire on the 6th and 7th; venter black, with white scales and hairs. Legs black, with yellowish scales on femora

and tibiae; front coxae yellowish-haired; front pair not much abbreviated, with smooth tibiae and short pubescent tarsi; claws black, with an acute basal tooth. Wings greyish hyaline with a narrowly luteous base, and a dark luteous fore border to the end of the axillary vein not extending below over the 4th longitudinal vein; cross-veins bordered with fuscous; basal hook reddish brown; basal comb reddish, with black bristles and yellowish dust. Second longitudinal vein with an almost indistinct terminal loop; marginal cross-vein straight and almost perpendicular; 1st posterior cell less narrowed at end, being more than twice as broad as the anal cell at end; 2nd much shorter and narrower than the third, this last considerably shorter than the 4th at the base. Discal cross-vein placed considerably before the middle of the discoidal cell; this last cell short and as broad at the base as at the end, very truncate outwardly, its terminal vein being perfectly straight, short and perpendicular, one third the length of the other vein. Alula yellowish, with greyish fringe; axillary lobe rather broad, but elongate.

L. GROUP STUPIDA.

EXOPROSOPA (EXOPROSOPA) PARVICELLULA, sp. nov., ♀.

A smallish species very like *stipida*, with metallic scales on head and body, but distinguishable by the wings being less vitreous and having a different venation.

Type ♀. A single not well-preserved specimen from Inhambane, Mozambique (K. H. Barnard).

Length of body 8 mm.; of a wing 7 mm. Head entirely shining black, with only the entire mouth borders and the genae yellow; occiput entirely clothed with metallic shining scales, which are denser near the rather deep indentation of eyes and on the lower part of the eye-borders; central fringe whitish; postvertical furrow deep, broadening behind; frons gently convex, $\frac{1}{5}$ of the head at the vertex, with black, erect hairs and metallic scales in front above the antennae. Face conically prominent, but convex above and obtuse at end, with dense metallic scales and short black hairs. Antennae entirely black; first joint short and black-haired; third broad at base, but quickly constricted into a long and thick styliform part without distinct style at end; palpi and proboscis black, this last a little projecting. Thorax entirely black; it seems to be clothed with metallic scales which are denser near the sides; collar entirely whitish, like the longer hairs of the sides; bristles black, pleurae with entirely white hairs, even the meta-pleural tuft; sternopleura densely clothed by broad white scales.

Scutellum wholly black, with metallic scales like the thorax. Squamae whitish, with white fringe; halteres yellow; plumula white. Abdomen elongate-conical, entirely black, only the hind borders of the segments being a little brownish; the sides are entirely bare, the first segment only having short white hairs, and the last segment dark scales on the hind border; at the base of the 2nd, 3rd and 4th segment there seem to be bands of white scales, which are broadly interrupted in the centre; spines of the ovipositor black. Venter black, with complete bands of white scales at the base; last sternite prominent, in the shape of a short keel. Legs black; front pair wanting in the type, but the front coxae are black, white-tomentose and white-pilose; middle femora without distinct spines, hind femora with 2-3 at the end, underneath; spicules of tibiae scarce and short; claws black, with a short but distinct basal tooth. Wings hyaline, iridescent, with a pale yellowish tint; basal comb narrow, yellowish; veins entirely yellow, darkened near the apex and the hind border; second vein deeply looped at end; marginal cross-vein straight, but placed much obliquely; upper branch of third vein strongly retreating at base; first posterior cell not narrowed at the end, 2nd and 3rd of the same breadth at the end, the vein between them long and almost straight; 3rd shorter than the 4th at the base. Discal cross-vein set much before the middle of the discoidal cell, which is narrow, long and acute outwardly, its terminal vein being oblique; the basal angle of the vein dividing it from the 3rd posterior cell is provided with a stump projecting into the discoidal cell. Anal cell very broadly open at end; alula hyaline, with a short white fringe; axillary lobe short, but not very broad.

HYPERALONIA, Rondani (1863).

For a long time it was believed that in South Africa there were no representative of this genus, as pointed out in 1886 by Osten Sacken, who, however, has overlooked the fact that *Exopr. nigripennis* Loew, from Mozambique, belongs to the present genus. In 1901 Miss G. Ricardo referred to this genus *Anthrax rufa*, of Wiedemann, a species, however, which, from the description, is more probably a *Lomatia*. The genus is certainly poorly represented in the South African fauna, and in the collection there are only 2 examples belonging to 2 species, both belonging to the group of *H. nigripennis*, as shown in the following table:

- 1 (4). Head black; basal joints of the antennae black and black-haired; wings equally infusate, with not distinctly infuscated cross-veins and with the discoidal cell acute at base.

- 2 (3). Antennal style about as long as the third antennal joint; hairs on the sides of the thorax and abdomen of a golden yellow colour; femora black, clothed with dense yellow scales. *nigripennis*, Loew.
- 3 (2). Antennal style very short, rudimentary; hairs of the sides of thorax and abdomen bright red; femora red like the tibiae.
coleoptrata, sp. nov.
- 4 (1). Head red; basal joints of antennae red and with reddish hairs below; wings dark-brownish, with distinctly infuscated cross-veins, and with the discoidal cell truncate at base *vittata*, Ric.

HYPERALONIA COLEOPTRATA, sp. nov., ♂.

A middle-sized species with wholly black wings, closely allied to *nigripennis*, but distinguishable by the different antennae and by the bright red hairs on the sides of body.

Type ♂, a single specimen from Stella Bay, Natal, January, 1915 (H. W. Bell-Marley). The present species cannot be considered as identical with *A. rufa*, Wiedemann, because this author states that the wing venation and the antennae are as in *Lomatia belsebut*, and because the species is not placed in the 'Erste Horde,' pl. iii, fig. 1, which contains the Hyperaloniae, a subfamily very well interpreted by this early writer. Length of body 11 mm.; of wing 11 mm. Head black, dark reddish-brown in the lower part; occiput with yellowish central fringe, with narrow and simple postvertical furrow and with yellowish tomentose postocular stripe; eyes with a broad but not deep indentation and with a long bisecting line; frons at vertex a little more than three times as broad as the short, rounded, reddish ocellar tubercle, and having short and dense erect, black hairs and reddish-yellow scales in front. Face distinctly conical but not much produced, with reddish scales, black short hairs in the centre at the upper mouth-edge and reddish hairs on the sides underneath. Antennae short, the first joint black with deep, black, short hairs; the second globular, red, black-haired; the third black, shortly conical, as long as the two first joints taken together, with a very short and stout terminal style; proboscis black, thick, shorter than the mouth; palpi yellow, pale-haired. Thorax elongate, rather narrow, entirely black, clothed on the upper side with dense black hairs and black scales, but with reddish hairs in front of the scutellum; collar and notopleural tuft entirely bright red; supra-alar stripe reddish; macrochaetae strong and long, black; pleurae grey-dusted, with scattered black hairs and reddish tomentum on the sternopleura; metapleural tuft bright red. Scutellum dark red, with a black, black-scaled base, clothed with reddish dust and bearing black bristles behind. Squamae reddish brown, with reddish yellow fringe; plumula reddish, halteres yellowish, with

whitish knob. Abdomen elongate-conical, not broader than the thorax, obtuse behind, black, with a red stripe on each side from the 2nd segment to the end, the 7th segment being red with a black basal median spot; on the back it is clothed with black scales, with reddish scales on the base of the 2nd and on the whole of the 6th and 7th segments, but on the red stripes the scales are also red; hairs of the sides long and red on the 1st and 2nd segments, shorter and with intermingled black hairs on the remainder. Male genitalia red and reddish-haired; venter entirely red, with reddish hairs and reddish dust. Legs red, with reddish scales and black spines; coxae, end of the front tibiae and all the tarsi, except at the base, blackish; front pair abbreviated, with smooth tibiae and with the tarsi rather bare above; front coxae with reddish hairs; middle femora with 2-3, hind femora with a complete row of bristles; claws black, with an indistinct basal tooth. Wings short and rather broad, entirely and equally infusate from the base to the end, and with a vivid metallic sheen; the hook and the small comb are of a deep black colour; praediscoidal spot almost indistinct. Veins black; the loop of the 2nd longitudinal vein is simple but deep; submarginal cross-vein very short, straight, perpendicular; the cell, characteristic of the genus *Hyperalonia*, is twice as long as broad; the first posterior cell is not much narrowed at end, the 2nd is narrower than the 3rd at the end, the vein between them being S-shaped and bent forwards at the end; third obtuse at the base, but only a little shorter than the 4th. Discoidal cell narrow, irregular, acute at both ends, its terminal vein horizontal, V-shaped, as long as the equally V-shaped preceding vein; discal cross-vein set in the centre of the discoidal cell, the upper vein after it, strongly curved outwardly; anal cell narrowly open; axillary lobe rather narrow; alula black, with dark fringe.

HYPERALONIA VITTATA, Ricardo (1901).

A mainly reddish species, very distinct on account of its reddish brown and dark spotted wings, which are beyond the discoidal cell strongly truncate at the base.

Originally described from Nyassaland and widely spread over East Africa, there is a single male specimen from Salisbury (S. Rhodesia) June, 1913. This example has all the general characters of this species, but differs in two points: (1) There is a black spot on the occiput, surrounding the postvertical furrow; (2) the 2nd posterior cell of the wings is rather constricted at end. Owing to these two characters the specimen makes a passage to the form which I have described from East Africa under the name of *H. paris*.

ADDITIONS.

I.

The following South African species of Bombycidae are from the South-West Protectorate (Damaraland), the dipterous fauna of which is as yet very little known.

SYSTOECHUS, Loew.

SYSTOECHUS CTENOPTERUS, Mikn.

A female specimen from S.W. Protectorate, Grootfontein, January, 1920 (R. W. E. Tucker).

EURYCARENUS, Loew.

The three South African species may be tabulated as follows:

- 1 (4). First posterior cell with a rather long stalk at end; abdominal segments destitute of silvery tomentum on hind border.
- 2 (3). Tarsi and tibiae yellowish, the hind tibiae with silvery scales; abdomen with a white longitudinal stripe in the middle; species of large size *laticeps*, Loew.
- 3 (2). Tarsi and tibiae quite black, those of the hind pair with black scales; abdomen without white middle stripe; species of smaller size *minimus*, sp. nov.
- 4 (1). First posterior cell almost sessile at end; abdomen with narrow bands of silvery toment at hind border of segments, and clothed moreover with a white pubescence *sessilis*, Bez.

EURYCARENUS MINIMUS, sp. nov.

A species of smaller size like *sessilis*, but with the first posterior cell stalked as in *laticeps*, and differing from both in the abdominal pattern.

Type ♂, and an additional specimen of the same sex from S.W. Protectorate, Tsumeb, December, 1919 (R. W. E. Tucker).

♂. Length of the body 7-8 mm.; of the wing 6.5-7.5 mm. Head as in *laticeps*, but the eyes of male approaching only at a point, without being in contact; frons and face with long, erect black hairs on the middle with soft golden-yellow hairs beneath them, and on the sides with long silvery hairs; palpi black with reddish base; proboscis entirely black, 3-3.5 mm. long. Antennae entirely black; third joint linear, twice as long as the two first joints together. Thorax and scutellum entirely black; on the back they are clothed with a golden-yellow soft pubescence, while on the pleurae the pubescence is white; dorsal macrochaetae black, those of the pleurae white; halteres whitish, the knob infuscated at base; squamulae dirty whitish, with a dark border and with whitish fringe. Abdomen entirely black, with complete rows of strong, erect, black bristles at the hind border

of the segments; it is clothed with black and yellowish hairs, the segments 3-6 being covered by an appressed yellowish tomentum in the shape of broad transverse bands; of these bands that of the third segment is interrupted in the middle, while those of the following segments are interrupted at the sides, thus forming a peculiar pattern; the fourth to fifth segments are clothed with long, erect, black hairs on the black portions. Venter with white hairs and with white pubescence; genitalia with reddish-brown lamellae. Legs entirely black, even the tibiae and tarsi; the four anterior femora and tibiae are clothed with white scales, while the hind tibiae are black-scaled. Wings hyaline, with the same venation as in *laticeps*; the veins are blackish on the apical and yellowish on the basal half.

HYPERUSIA, Bez.

HYPERUSIA SOROR, sp. nov.

Closely allied to *Hyp. minor* from Zululand, but smaller and distinct by the closed anal cell, by the third antennal joint being entirely reddish to the end, and by the darker legs.

Type ♀, a single specimen from S.W. Protectorate, Otjituo, January, 1920 (R. W. E. Tucker).

♀. Length of the body 3.2 mm.; of the wing 3 mm. Face quite black; third antennal joint clavate and entirely reddish-yellow, without a black end; proboscis a little less than 1 mm. in length. Thorax clothed on the back with whitish hairs, and destitute of golden-yellow tomentum. Abdomen as in *minor*, the golden tomentum being present even if scattered. Legs with darker tibiae, those of the hind pair being even blackish. Wings the same as in *minor*, but the anal cell is closed and briefly stalked like in the type-species of the genus.

GERON, Meig.

GERON HYBRIDUS, Meig.

A female specimen from S.W. Protectorate, Otjituo, January, 1920 (R. W. E. Tucker).

TOXOPHORA, Meig.

TOXOPHORA EPARGYRA, Hermann.

Zeitschr. für System. Hymenopt. and Dipterol., 1907, p. 201.

A male specimen from S.W. Protectorate, Otjituo, January, 1920 (R. W. E. Tucker).

Referred to the present species, lately described from the female sex, from Smyrna, Asia Minor, and not yet known from Africa. It differs

from all the other species in having the wings unspotted as in *maculata*, with the cross-vein between the discoidal and the second posterior cell not only angularly bent, but provided with a strong stump of vein directed outwardly into the second posterior cell. Such a character is known only for the North American species *amphites*, Walk. I assume therefore the present species to be the same as the Syrian one, notwithstanding the very different habitat.

Eyes touching in a line a little shorter than three times the small ocellar tubercle. The base of the antennae and the sides of the frontal triangle are provided with long white tufts; first antennal joint rather thin, with white scales on the outer side and below. Abdomen clothed on the back with white scales, but with the four rows of black spots not distinct. Legs black and white-scaled. Wings greyish-hyaline, slightly yellowish along the costal cell, on the base of the marginal and submarginal, and on the whole of the first basal cell.

PETROROSSIA.

PETROROSSIA HESPERUS TROPICALIS, subsp. n.

A female specimen from S.W. Protectorate, Otjituo, January, 1920 (R. W. E. Tucker).

The present subspecies is distinguished from the typical species by the white-haired face and first antennal joint, by the complete red stripe at the sides of the abdomen, by the mostly yellow femora, and by the upper branch of the cubital fork devoid of appendage.

Described originally from specimens from Nyassaland and other Central African localities.

ANTHRAX, Scop.

ANTHRAX FUSCIPENNIS, Ric.

A male specimen from S.W. Protectorate, Otjituo, January, 1920 (R. W. E. Tucker).

SPONGOSTYLUM, Macq.

SPONGOSTYLUM INCISURATA, Macq.

A female specimen from S.W. Protectorate, Windhoek, December, 1919 (R. W. E. Tucker).

THYRIDANTHRAX, Ost. Sack.

THYRIDANTHRAX LUGENS, Loew.

Some specimens from S.W. Protectorate, Grootfontein, January, 1920, and from Otjivarongo, February, 1920 (R. W. E. Tucker).

THYRIDANTHRAX TRANSIENS, Bezzi.

One specimen from S.W. Protectorate, Otjituo, January, 1920 (R. W. E. Tucker).

EXOPROSOPA, Macq.

EXOPROSOPA (EXOPROSOPA) FASTIDIOSA, sp. n.

Near *seniculus*, but distinct by the middle dark band of the wings being extended, through the apical half of the discoidal cell, to the hind border of the wing, or nearly so. The type is from the Nyasaland Protectorate; the abdomen shows transverse bands of white scales alone, while in the present specimen the fourth and fifth segments have yellowish bands like the second. Antennae entirely black.

One female specimen from S.W. Protectorate, Grootfontein, January, 1920 (R. W. E. Tucker).

EXOPROSOPA (EXOPROSOPA) HYPARGYRA, sp. nov.

Closely allied to *seniculus* and *fastidiosa*, but distinct from all the known species of their group on account of the broad patch of silvery scales on the sternopleura.

Type ♀, a single specimen from S.W. Protectorate, Tsumeb, December, 1919 (R. W. E. Tucker).

♀. Length of the body 12 mm.; of the wing 12 mm. Head as in *seniculus*, with not projecting proboscis; antennae entirely black, with the third joint elongate-conical as in *fastidiosa*. Thorax as in *seniculus*, but the sternopleurae are completely clothed with silvery scales, thus forming a broad triangular white spot, which is wanting in the allied species. Abdomen and legs as in *seniculus*; spines of the ovipositor black. Wings with the same nervation, but the small cell being very narrow at end and nearly closed (in *seniculus* and *fastidiosa* it is broadly open). The pattern is like that of *seniculus*, but the dark band of the fore border is shorter, ending into the marginal cell a little before the upper end of the marginal cross-vein (in the two other species it ends on or a little beyond the cross-vein); the middle cross-band is broad and long, crossing the discoidal cell on its apical third (but leaving its extreme external apex hyaline), filling up the whole base of the second posterior cell and entering into the upper part of the third posterior cell.

EXOPROSOPA (EXOPROSOPA) TUCKERI, sp. nov.

A species of the *dimidiata*-group and to be placed near it, distinct by the metapleural tuft being reddish yellow above and black below; by the apical cross-vein of the discoidal cell being short, straight, and placed obliquely; by the discoidal cell dilated at end at the upper

border alone. It is near *argyrophora*, Bezzi, from Nyassaland, but is distinct, the last abdominal segments being clothed with white scales.

Type ♂, a single specimen from S.W. Protectorate, Otjituo, January, 1920, collected by (R. W. E. Tucker), in whose honour it is named.

♂. Length of body 11 mm.; of wing 11 mm. Head deep black and black haired, with scattered yellowish scales on the frons; face conically produced; proboscis not at all projecting; antennae quite black, with the third joint briefly conical, as long as the two first joints together; style thin, as long as the third antennal joint. Thorax and scutellum entirely black, with black hairs and black bristles; on the back there are scattered yellowish hairs, which form a complete broad stripe on each side above the notopleural line; collar yellowish, pleuræ black haired, with a yellowish notopleural tuft; metapleural tuft yellowish above and black below; squamulae dark yellowish, with white fringe; halteres with yellow knob and dark stalk. Abdomen entirely black; first and second segment with dense white hairs on the sides, the rest of the sides with black hairs alone; on the back it is clothed with black and yellowish scales, the second and third segment and the sides of the sixth and seventh being clothed with silvery scales; venter black, black scaled and black haired. Legs quite black and black-scaled. Wings with black veins: terminal loop of second longitudinal vein double; first posterior cell not narrowed at end, about a half as broad as the second, which is as broadly open as the third; discoidal cell at end twice as broad as at base, its terminal cross-vein being short and straight; anal cell narrowed at end. The wings are typically dimidiate, black and hyaline; the limit between the two portions goes a little toothed from the end of the first longitudinal vein, over the base of the first submarginal and first posterior cells, across the basal third of the discoidal cell, over the base of the fourth posterior cell, over the two basal thirds of the anal cell to the basal half of the axillary lobe; praediscoidal spot broad and whitish.

EXOPROSOPA (EXOPROSOPA) PUNCTULATA, Macq.

A female from S.W. Protectorate, Tsumeb, December, 1919 (R. W. E. Tucker).

EXOPROSOPA (EXOPROSOPA) STANNUSI, Bezzi.

A female specimen from S.W. Protectorate, Otjivaronga, 1920.

EXOPROSOPA (EXOPROSOPA) LUTEICOSTA, Bezzi.

A female specimen from S.W. Protectorate, Tsumeb, December, 1919 (R. W. E. Tucker).

EXOPROSOPA (EXOPROSOPA) CERVINA, sp. nov.

Closely allied to *luteicosta* and perhaps only a variety of it, but distinct by the smaller size and by the more lightly coloured body, chiefly on the abdomen, which is clothed with whitish and yellowish scales and devoid of tufts of black hairs at the sides.

Type ♀, an additional female specimen and a male specimen without a head, from S.W. Protectorate, Otjivarongo, Otjituo and Tsumeb, December, 1919, to January, 1920 (R. W. E. Tucker).

♂ ♀. Length of body 11–11.5 mm.; of wing 12–12.5 mm. Head black, reddish on the sides of face below and peristome, with yellowish scales and clothed with erect black hairs on the frons; antennae entirely black, with the third joint elongate, longer than the two first joints together, with a very short and thick terminal style; face conically produced; proboscis very little projecting. Thorax black, with yellowish hairs and yellowish scales, without black hairs even on the pleurae; only the bristles are black. Scutellum reddish, with black base, clothed like the thorax. Halteres dark yellowish; squamulae whitish, with white fringe. Abdomen of oval shape, entirely black; it is clothed above, with scales, without black hairs; all the hairs of the sides are yellowish; the scales are yellowish, being white only at base of the second segment, where they form a complete band, and on the sides of the third and of the two terminal segments. Venter black, with a reddish hind border on each segment, with white scales and white hairs; spines of the ovipositor reddish. Legs black, but with yellowish scales; the front tibiae are smooth and reddish; hind claws with a long and acute tooth. Wings hyaline, with the venation like that of *luteicosta*; veins yellowish, black on the apical half; the pattern is very reduced, consisting only in a faint yellowish tinge of the costal and subcostal cells, and in a faintly infuscated patch on the middle of the fore half. Over the base of the second longitudinal vein, the discal cross-vein and the end of the first basal cell, besides the lower apical cross-vein of the second basal cell between this and the fourth posterior cell, and the upper corner of the cross-vein between the third posterior and discoidal cell, are faintly margined with fuscous; but in the male specimen there is no trace of this infuscation.

II.

SYSTROPUS, Macq.

SYSTROPUS SANGUINEUS, Bez.

Two examples bred from the pupa of an unidentified Notodont moth. Caledon. Cape (K. H. Barnard).

OESTRANTHRAX, Bez.

OESTRANTHRAX OBESUS, Loew.

An example from Durban, Natal, March 10th, 1919 (H. W. Bell-Marley) lacks the appendix projecting into the discoidal cell, but is typical in other respects.

The following note is appended to the specimen: "This fly came out of an old log containing Cossid larvae." Certain species of the related genus *Villa* are known to be parasitic upon larvae of nocturnal Lepidoptera.

THYRIDANTHRAX, Ö. Sack.

THYRIDANTHRAX VIDUATUS, Loew.

Dipteren-Fauna Süd-afrikas, p. 221, pl. ii, fig. 22.

Montagu, Cape, November, 1919 (R. M. Lightfoot).

Distinct from *T. lugens* and *T. transiens* in the long discoidal cell, in the first posterior cell distinctly narrowed at end, and in the lighter pattern of the base of the wing.

SYSTEMATIC ARRANGEMENT OF THE GENERA AND SPECIES.

BOMBYLIINAE.

BOMBYLIUS, L.

lateralis, Fab.
bombiformis, Bez.
haemorrhoidalis, Bez.
acroleucus, Bez.
mutilatus, Bez.
kilimandjariensis, Speis.
furiosus, Walk.
ornatus, Wied.
rufiventris, Macq.
mollis, Bez.
disjunctus, Bez.
eurhinatus, Bez.
brachyrrhynchus, Bez.
globulus, Bez.
impurus, Loew.
mundus, Loew.
sessilis, Bez.
xanthocerus, Bez.
marginellus, Bez.
paterculus, Walk.
ruficeps, Macq.

purpureus, Bez.
micans, Fabr.
hypoleucus, Wied.
hirtus, Loew.
servillei, Macq.
capensis, L.
megaspilus, Bez.
braunsi, Bez.
punctatellus, Bez.
punctifer, Bez.
pentaspilus, Bez.
obesus, Bez.
spinibarbus, Bez.
angulosus, Bez.
nigripecten, Bez.
peringueyi, Bez.
argentifer, Walk.
molitor, Wied.
hirticeps, Bez.

SYSTOECUS, Loew.
scabrirostris, Bez.
ventricosus, Bez.
simplex, Loew.

- tumidifrons, Bez.
 albidus, Loew.
 nigripes, Loew.
 mixtus, Wied.
 stenopterus, Mik.
 spinithorax, Bez.
 fuliginens, Loew.
- ANASTOECHUS**, O. Sack.
 rubricosus, Wied.
 varipeeten, Bez.
 cervinus, Loew.
 erinaceus, Bez.
 macrophthalmus, Bez.
 innocuus, Bez.
 leucosoma, Bez.
- EURYCARENUS**, Loew.
 laticeps, Loew.
 sessilis, Bez.
 minimus, Bez.
- DISCHISTUS**, Loew.
 capito, Loew.
 plumipalpis, Bez.
 rubicundus, Bez.
 niveus, Macq.
 ovatus, Bez.
 seriatus, Wied.
 vittipes, Bez.
 variegatus, Macq.
 tripunctatus, Macq.
 coracinus, Loew.
 pectoralis, Loew.
- SESYOMYIA**, Bez.
 carnata, Bez.
- CYTHEREINAE**.
- ONIROMYA**, Bez.
 pachycerata, Big.
- USIINAE**.
- CORSOMYZA**, Wied.
 simplex, Wied.
 pennipes, Wied.
 nigripes, Wied.
 hirtipes, Macq.
 clavicornis, Wied.
 anceps, Bez.
 bicolor, Bez.
 ruficornis, Bez.
- CALLYNTHROPHORA**, Sch.
 marginifrons, Bez.
- GNUMYA**, Bez.
 brevirostris, Bez.
- HYPERUSIA**, Bez.
 minor, Bez.
 soror, Bez.
- MEGAPALPUS**, Macq.
 nitidus, Macq.
 fulviceps, Bez.
- PTHIRIINAE**.
- GONARTHURUS**, Bez.
 leucophys, Big.
 xanthinus, Bez.
 cygnus, Big.
 chioneus, Bez.
 cylindricus, Bez.
- CROCIDIUM**, Loew.
 poecilopterum, Loew.
 nigrifacies, Bez.
- PSEUDEMPIS**, Bez.
 heteroptera, Wied.
- PTHIRIA**, Meig.
 laeta, Bez.
 lanigera, Bez.
 pubescens, Bez.
- GERON**, Meig.
 hybridus, Meig.
 barbatus, Bez.
 luctuosus, Bez.
 leptocerus, Bez.
 dichromus, Big.
- APOLYSIS**, Loew.
 humilis, Loew.
- SYSTROPINAE**.
- SYSTROPUS**, Wied.
 leptogaster, Loew.
 sanguineus, Bez.
 snowi, Ad.
- TOXOPHORINAE**.
- TOXOPHORA**, Meig.
 maculata, Ross.
 punctipennis, Bez.
 epargyra, Herm.
 diploptera, Speis.
 caeruleiventris, Karsch.

CYLLENIINAE.

- NOMALONIA, Rond.
 afra, Macq.
 HENICA, Macq.
 longirostris, Wied.
 PERINGUEYIMYIA, Big.
 capensis, Big.

LOMATIINAE.

- LOMATIA, Meig.
 acutangula, Loew.
 longitudinalis, Loew.
 liturata, Loew.
 pictipennis, Wied.
 simplex, Wied.
 infuscata, Bez.
 conocephala, Macq.
 pulchriceps, Loew.
 latiuscula, Loew.
 tenera, Loew.
 PTERAULAX, Bez.
 flexicornis, Bez.
 PETROROSSIA, Bez.
 hesperus, Ross.
 vinula, Bez.
 fulvipes, Loew.
 tropicalis, Bez.

ANTHRACINAE.

- ANTHRAX, Scop.
 pithecius, Fabr.
 hessii, Wied.
 diffusus, Wied.
 aygulus, Fabr.
 trimaculatus, Wulp.
 pusillus, Wied.
 hemimelas, Speis.
 fuscipennis, Ric.
 SPONGOSTYLUM, Macq.
 muticum, Bez.
 incisurale, Macq.
 punctipenne, Wied.

EXOPROSOPINAE.

- VILLA Lioy.
 flavipes, Loew.
 albescens, Loew.
 sexfasciata, Wied.

- vitripennis, Loew.
 argentina, Bez.
 lasia, Wied.
 leucochila, Bez.

- OESTRANTHRAX, Bez.
 obesus, Loew.

- SYNTHESIA, Bez.
 fucoides, Bez.

- THYRIDANTHRAX, O. Sack.
 flammiger, Walk.
 leucoproctus, Loew.
 linea, Loew.
 abruptus, Loew.
 transiens, Bez.
 lugens, Loew.
 calochromatus, Bez.
 ternarius, Bez.
 laetus, Loew.
 viduatus, Loew.

- LITORRHYNCHUS, Macq.
 maurus, Thunb.
 tollini, Loew.
 argyrolepis, Bez.

- EXOPROSOPA (METAPENTA).
 pentala, Macq.
 corvina, Loew.

- (ACRODISCA).
 fimbriatella, Bez.
 offuscata, Bez.
 personata, Bez.
 angulata, Loew.

- (DEFILIPPIA).
 neurospila, Bez.
 venosa, Wied.
 nigrovenosa, Bez.
 maculosa, Wied.
 maculifera, Bez.
 strenua, Loew.
 hirtipes, Loew.

- (PTEROBATES).
 apicalis, Wied.

- (EXOPROSOPA).
 formosula, Bez.
 nemesiis, Fabr.
 morosa, Loew.
 ignava, Loew.

seniculus, Wied.
elongata, Ric.
argentifrons, Macq.
capensis, Wied.
infumata, Bez.
eluta, Loew.
heros, Wied.
dux, Wied.
sigmoidea, Bez.
dimidiata, Macq.
dilatata, Bez.
punctulata, Macq.
perpulchra, Bez.
parvula, Bez.

stannusi, Bez.
inaequalipes, Loew.
batrachoides, Bez.
balioptera, Loew.
pediformis, Bez.
luteicosta, Bez.
parvicellula, Bez.
fastidiosa, Bez.
hypargyra, Bez.
tuckeri, Bez.
cervina, Bez.

HYPERALONIA, Rond.
coleoprata, Bez.
vittata, Ric.

INDEX.

	PAGE		PAGE
A.			
abruptus (Thyridanthrax), Loew	133, 134	Bombylius, Linné	3, 6
Acrodisca, Loew.	139	brachyrrhynchus (Bombylius), Bez.	14, 16
acroleucus (Bombylius), Bez.	8, 9	braunsi (Bombylius), Bez.	23, 26
acutangula (Lomatia), Loew.	112, 113	brevirostris (Gnumya), Bez.	83
ADELIDEA	3	Busiris (Exoprosopa), Jaenn.	161
afra (Nomalonia), Macq.	107	C.	
albescens (Villa), Loew.	126, 127	caeruleiventris (Toxophora), Karsch.	105, 106
albidus (Systoechus), Loew.	37, 42	Callynthrophora, Sch.	4, 80
analís (Bombylius), Fabr.	8	Calochromatus (Thyridanthrax), Bez.	133, 135
Anastoechus, Osten-Sacken	3, 46	capensis (Bombylius), Linné	22, 26
anceps (Corsomyza), Bez.	74, 78	capensis (Exoprosopa), Wied.	150, 154
angulata (Exoprosopa), Loew.	144	capensis (Peringueyimyia), Big.	110
angulosus (Bombylius), Bez.	23, 31	capito (Dischistus), Loew.	57
ANTHRACINAE	121	carinata (Sosiomyia), Bez.	69
Anthrax, Scopoli	5, 121	ceri (Anastoechus), Loew.	46
Apatomyra	4	cervina (Exoprosopa), Bez.	171
apicalis (Pterobates), Wied.	149	cervinus (Anastoechus), Loew.	50
Apolysis, Loew.	4, 102	chioneus (Gonarthus), Bez.	89, 91
argentatus (Bombylius), Fabr.	7	clavatus (Systropus)	103
argentifer (Bombylius), Walk.	23, 34	clavicornis (Corsomyza), Wied.	74, 77
argentifrons (Exoprosopa), Macq. 150, 154		coleoptrata (Hyperalonia), Bez.	164
argentina (Villa), Bez.	127, 128	conocephala (Lomatia), Macq.	112, 115
argyrolepis (Litorrhynchus), Bez.	137, 138	coracinus (Dischistus), Loew.	66
ater (Bombylius)	6	Corsomyza, Wied.	4, 73
aygulus (Anthrax), Fabr.	122, 123	corvina (Exoprosopa), Loew.	139
B.			
balioptera (Exoprosopa), Loew. 151, 160		Crocidium, Loew.	4, 92
barbatus (Geron), Bez.	99	crudelis (Systropus)	103
batrachoides (Exoprosopa), Bez. 151, 160		ctenopterus (Systoechus), Mik. 37, 44, 166	
bicolor (Corsomyza), Bez.	74, 78	cygnus (Gonarthus), Big.	89, 90
bivittatus (Bombylius), Loew.	7	cylindricus (Gonarthus), Bez.	92
bombiformis (Bombylius), Bez.	9	Cyllenía	5
BOMBYLIIDAE	6	CYLLENIINAE	106
BOMBYLIINAE	6	CYTHEREINAE	71
D.			
		Deflippia, Loew.	138
		delicatus (Bombylius), Wied.	8

	PAGE
dichromus (Geron), Big.	99, 100
diffusus (Anthrax), Wied.	122, 123
dilatata (Exoprosopa), Bez.	150, 157
dimidiata (Exoprosopa), Macq.	150, 157
diploptera (Toxophora), Speis	105, 106
Dischistus, Loew.	3, 56
disjunctus (Bombylius), Bez.	15
dux (Exoprosopa), Wied.	150, 156
E.	
elongata (Exoprosopa), Ric.	150, 154
eluta (Exoprosopa), Loew.	150, 156
epargyra (Toxophora), Herm.	167
erinaceus (Anastoechus), Bez.	47, 50
erythrocerus (Bombylius), Bez.	13
eurhinatus (Bombylius), Bez.	14, 16
Eurycareus, Loew.	3, 55
Exoprosopa, Macq.	6, 138
EXOPROSOPINAE	5, 126
F.	
fimbriatella (Acrodisca), Bez.	139, 140
flammiger (Thyridanthrax), Walk.	133
flavipes (Villa), Loew.	126, 127
flexicornis (Pteraulax), Bez.	118
formosula (Exoprosopa), Bez.	151
fucatus (Bombylius), Bez.	14
fucoides (Synthesia), Bez.	131
fulviceps (Megapalpus), Bez.	87
fulvipes (Petrorossia), Loew.	120, 121
fuliginous (Systoechus), Loew.	45
fulvonotatus (Bombylius), Wied.	8
furius (Bombylius), Walk.	8, 12
fuscipennis (Anthrax), Ric.	122, 124
G.	
Geron, Meig.	4, 98
globulus (Bombylius), Bez.	14, 17
Gnumya, Bez.	4, 82
Gonarthrus, Bez.	4, 88
H.	
haemorrhoidalis (Bombylius), Bez.	9
hemimelas (Anthrax), Speis	122, 124
Henica, Macq.	109
heros (Exoprosopa), Wied.	150, 156
hesperus (Petrorossia), Rossi	120
hessii (Anthrax), Wied.	122, 123

	PAGE
heteroptera (Pseudempis), Wied.	95
hirticeps (Bombylius), Bez.	35
hirtipes (Corsonyza), Macq.	74, 76
hirtipes (Defilippia), Loew.	145, 149
hirtus (Bombylius), Loew.	22, 25
humilis (Apolysis), Rond.	102
hybridus (Geron), Meig.	99, 167
hypargira (Exoprosopa), Bez.	169
Hyperalonia, Rond.	6, 163
Hyperusia, Bez.	4, 84
hypoleucus (Bombylius), Wied.	22, 25
I.	
ignava (Exoprosopa), Loew.	150, 154
impurus (Bombylius), Loew.	14, 18
inaequalipes (Exoprosopa), Loew.	151, 160
incisurale (Spongostylum), Macq.	124, 125
infumata (Exoprosopa), Bez.	155
infuscata (Lomatia), Bez.	112, 114
innocuus (Anastoechus), Bez.	47, 52
impurus (Bombylius), Loew.	14, 18
K.	
kilimandjaricus (Bombylius), Speis	8, 11
L.	
laeta (Phthiria), Bez.	96
laetus (Thyridanthrax), Loew.	137
lanigera (Phthiria), Bez.	96, 97
lasia (Villa), Wied.	127, 129
lateralis (Bombylius), Fabr.	7, 8
laticeps (Eurycareus), Loew.	55, 166
latiuscula (Lomatia), Loew.	112, 116
leptocerus (Geron), Bez.	99, 100
leptogaster (Systropus), Loew.	103
leucochila (Villa), Bez.	129
leucophys (Gonarthrus), Big.	89
leucoproctus (Thyridanthrax), Loew.	133
leucosoma (Anastoechus), Bez.	47, 54
linea (Thyridanthrax), Loew.	133, 134
Litorhynchus, Macq.	137
liturata (Lomatia), Loew.	112, 113
Lomatia, Meig.	111
LOMATIINAE	5, 111
longirostris (Henica), Wied.	109

	PAGE		PAGE
longitudinalis (Lomatia), Loew	112, 113	O.	
luctuosus (Geron), Bez.	99	obesus (Bombylius), Bez.	23, 29
lugens (Thyridanthrax), Loew.	133	obesata (Oestranthrax), Bez.	172
luteicosta (Exoprosopa), Bez.	151, 161	offuscata (Exoprosopa), Bez.	141
Lythorhynchus, Macq.	6	Oestranthrax, Bez.	5, 130
		Oniromyia, Bez.	3, 71
		ornatus (Bombylius), Wied.	12
		ovatus (Dischistus), Bez.	57, 62
M.		P.	
macilentus (Systropus)	103	pachycerata (Oniromyia) Big.	72
macrophthalmus (Anastoechus), Bez.	47, 52	parvicellula (Exoprosopa), Bez.	151, 162
maculata (Toxophora), Bez.	105	parva (Exoprosopa), Bez.	159
maculifera (Defilippia), Bez.	145, 147	parvula (Exoprosopa), Bez.	151
maculosa (Defilippia), Wied.	145, 147	paterculus (Bombylius), Walk.	14, 20
marginellus (Bombylius), Bez.	14, 20	pectoralis (Dischistus), Loew.	67
marginifrons (Callynthrophora), Bez.	80	pediformis (Exoprosopa), Loew.	160
marshalli (Systropus), Wied.	103	pemipes (Corsomyza), Wied.	73, 75
maurus (Litorrhynchus), Thunb.	137	pentalis (Exoprosopa) Macq.	138
Megapalpus, Macq.	4, 85	pentaspilus (Bombylius), Bez.	23, 29
megaspilus (Bombylius), Bez.	22, 26	peringueyi (Bombylius), Bez.	23, 33
Metapenta, Bez.	139	Peringueyimyia, Big.	5, 109
micans (Bombylius), Fabr.	7, 22, 25	perpulchra (Exoprosopa), Bez.	159
minus (Eurycaenus), Bez.	166	personata (Acrodisca), Bez.	140, 143
minor (Bombylius)	7	personata (Exoprosopa), Bez.	143
minor (Hyperusia), Bez.	84	Petrorossia (Bombylius), Bez.	5, 119
mixtus (Systoechus), Wied.	37, 43	Phthiria	4, 96
molitor (Bombylius), Wied.	23, 34	PHTHIRIINAE	88
mollis (Bombylius), Bez.	13, 15	pictipennis (Lomatia), Wied.	112, 113
morosa (Exoprosopa), Loew.	150, 153	pithecius (Anthrax), Fabr.	122
mundus (Bombylius), Loew.	14, 18	plumipalpis (Dischistus), Bez.	57, 58
muticum (Spongostylum), Bez.	124, 125	poclopterum (Crocidium), Loew.	93
mutilatus (Bombylius), Bez.	8, 10	Pseudempis, Bez.	94
		Pseudomictus	4
		Pteraulax, Bez.	5, 117
		Pterobates, Bez.	149
N.		pubescens (Phthiria), Bez.	96, 98
neithrocris (Bombylius), Jaenn.	13	pulchriceps (Lomatia), Loew.	116
nemesis (Exoprosopa), Fabr.	149, 153	punctatellus (Bombylius)	23, 26
neurospila (Defilippia), Bez.	144, 145	punctulata (Exoprosopa), Macq.	150, 159
nigrifacies (Crocidium), Bez.	93	punctifer (Bombylius), Bez.	23, 28
nigripecten (Bombylius), Bez.	23, 32	punctipenne (Spongostylum), Wied.	125, 126
nigripes (Corsomyza), Wied.	73, 75	punctipennis (Toxophora), Bez.	105
nigripes (Systoechus), Loew.	37, 43	purpureus (Bombylius), Bez.	22, 23
nigrovenosa (Defilippia), Bez.	144, 146	pusillus (Anthrax), Wied.	122, 123
nigripennis (Hyperalonia), Loew.	164		
nitidus (Megapalpus), Macq.	86		
niveus (Dischistus), Macq.	57, 61		
Nomalonia, Rond.	5, 106		

On the Bombyliid Fauna of South Africa (Diptera). 179

	PAGE
R.	
rubicundus (Dischistus), Bez.	57, 60
rubricosus (Anastoechus), Wied.	46
ruficeps (Bombylius), Macq.	14, 21
ruficornis (Corsomyza), Bez.	74, 79
rufiventris (Bombylius), Macq.	12

S.	
sanguineus (Systropus), Bez.	103, 171
scabirostris (Systoechus), Bez.	37
senex (Bombylius), Meig.	7
seniculus (Exoprosopa), Wied.	150, 154
seriatus (Dischistus), Wied.	57, 63
servillei (Bombylius), Macq.	22, 25
sessilis (Bombylius), Bez.	14, 19
sessilis (Eurycaenus), Bez.	55
sexfasciata (Villa), Wied.	126, 127
sigmoidea (Exoprosopa), Bez.	150, 157
simplex (Corsomyza), Wied.	73, 74
simplex (Lomatia), Wied.	112, 114
simplex (Systoechus), Loew.	37, 41
snowi (Systropus), Adams.	103, 105
soror (Hyperusia), Bez.	167
Sosiomyia, Bez.	3, 67
spinibarbus (Bombylius), Bez.	23, 30
spinithorax (Systoechus), Bez.	37, 44
Spongostylum, Macq.	5, 124
stannusi (Exoprosopa), Bez.	151, 159
strenua (Defilippia), Loew.	145, 148
Synthesis, Bez.	5, 6, 130
Systoechus, Loew.	3, 36
SYSTROPINAE	102
Systropus, Wied.	4, 102

T.	
tenera (Lomatia), Loew.	112, 116

	PAGE
ternarius (Thyridanthrax), Bez.	133, 136
Thyridanthrax, O. Sack.	6, 133
tollini (Litorrhynchus), Loew.	137, 138
Tomomyra, Wied.	5
TOXOPHORINAE	5, 105
Toxophora, Meig.	5, 105
transiens (Thyridanthrax), Bez.	134
trimaculatus (Anthrax), v.d.	
Wulp.	123
Triplasius	8
tripunctatus (Dischistus), Macq.	65
tropicalis (Petrorossia), Bez.	168
tuckeri (Exoprosopa), Bez.	169
tumidifrons (Systoechus), Bez.	37, 41

U.	
USIINAE	73

V.	
variegatus (Dischistus), Macq.	58, 64
varipecten (Anastoechus), Bez.	46, 48
venosa (Defilippia), Wied.	144, 146
ventricosus (Systoechus), Bez.	37, 40
viduatus (Thyridanthrax), Loew.	172
Villa, Lioy	5, 126
vinula (Petrorossia), Bez.	120
vitripennis (Villa), Loew.	127
vittata (Hyperalonia), Ric.	161, 165
vittipes (Dischistus), Bez.	58, 63

X.	
xanthocerus (Bombylius), Bez.	14, 19
xanthinus (Gonarthrus), Bez.	89

EXPLANATION OF PLATES.

PLATE I.

FIG.

1. *Bombylius mutilatus*, n. sp. Wing.
2. „ *capensis*, Lin. Wing.
3. „ *megaspilus*, n. sp. Wing.
4. „ *punctatellus*, n. sp. Wing.
5. „ *pentaspilus*, n. sp. Wing.
6. „ *peringueyi*, n. sp. Whole insect.
7. „ *hirticeps*, n. sp. Head.
8. *Systoechus scabriorstris*, n. sp. Whole insect.
9. *Anastoechus rubricosus*, Wied. Whole insect.
10. *Eurycarenum sessilis*, n. sp. Wing.
11. *Dischistus plumipalpis*, n. sp. Whole insect.
12. *Sosioiomya comata*, n. sp. Whole insect and head magnified.
13. *Oniromyza pachycerata*, Big. Whole insect.
14. *Corsomyza pennipes*, Wied. Whole insect.
15. *Callynthrophora magnifrons*, n. sp. Whole insect.

PLATE II.

FIG.

16. *Megapalpus nitidus*, Macq. Whole insect.
17. *Gonarthus cygnus*, Big. Whole insect.
18. *Pseudempis heteroptera*, Wied. Whole insect.
19. *Peringueyimyza capensis*, Big. Whole insect.
20. *Pteraulax flexicornis*, n. sp. Whole insect.
21. *Petrorossia vinula*, n. sp. Wing.
22. *Spongostylum muticum*, n. sp. Wing.
23. *Thyridanthrax calochromatus*, n. sp. Wing.
24. „ *ternarius*, Bez. Wing.
25. *Litorrhynchus maurus*, Thunb. Whole insect.
26. *Ezoprosopa pentala*, Macq. Wing.
27. „ *offuscata*, n. sp. Wing.
28. „ *neurospila*, n. sp. Wing.
29. „ *nemesis*, Fabr. Whole insect.
30. „ *capensis*, Wied. Wing.
31. „ *dilatata*, n. sp. Wing.
32. *Hyperalonia coleoprata*, n. sp. Wing.